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Colorful Cotton Prints

The Square Dance Print promotion developed by Fulton is just one example of the way you can use Fulton bags to get *extra* sales. Butt tags or butt bands are applied in our plant—there's no extra handling needed in your mill. Other special bags such as luncheon cloths and pillowcases are available now, and new ones are coming! Of course, bags from Fulton's bleached goods are available.

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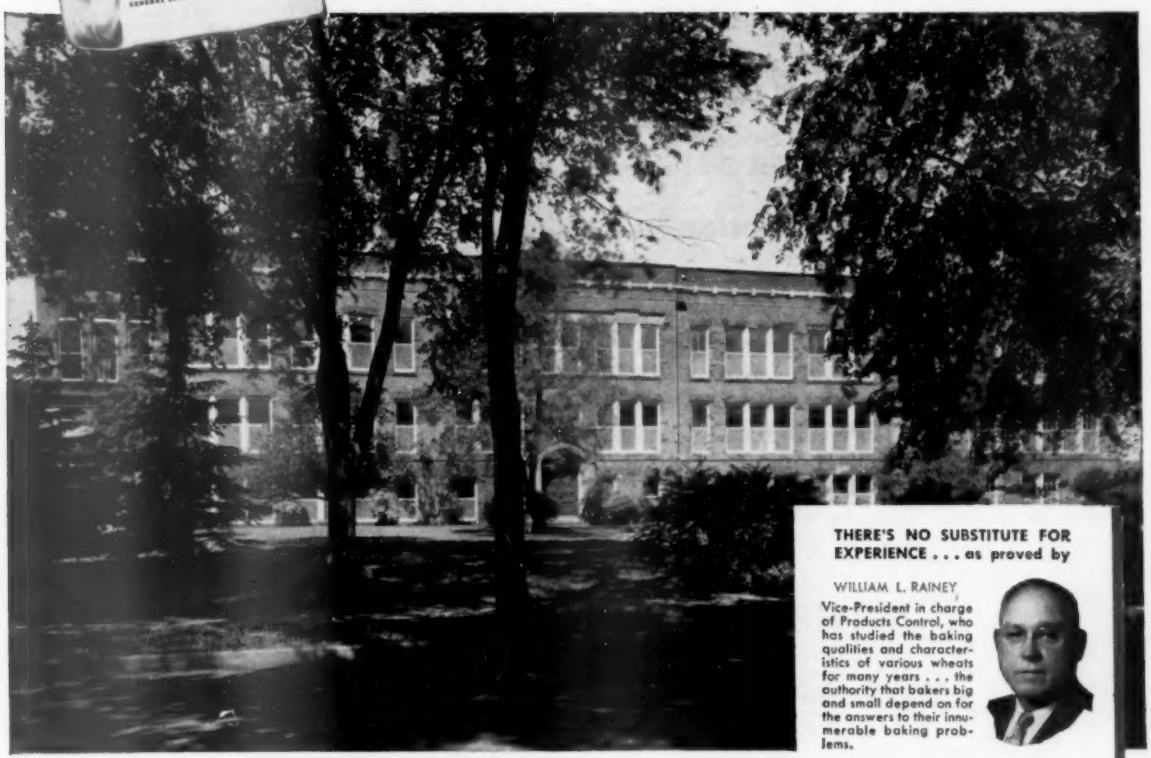

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THE MILLER'S ALMANACK

TABLE OF CONTENTS

Milling Section - - - - - Page 3
- Packaging and Labeling Laws - - - - 3
- State Flour Laws - - - - - - - - - 4
- Flour Production - - - - - - - - 23, 24
- Exports - - - - - - - - - - - 33

Foreign Section - - - - Page 45
- World Import Duties - - - - - - 54

Grain Section - - - - - Page 61
- Contract Grades - - - - - - - - 61
- Crops - - - - - - - - - - - 90

Feed Section - - - - - Page 101
- Rules - - - - - - - - - - - 101
- Definitions of Feeds - - - - - - - 106
- State Laws - - - - - - - - - 110

Baking Section - - - - Page 120
- State Laws - - - - - - - - - 120
- Standards of Identity - - - - - - 125

Trade Associations - - Page 133

Topical Index - - - - Page 137

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INFORMATION on MILLING INDUSTRY

Packaging and Labeling Laws

Federal and state laws govern the packaging and labeling of flour in the U.S. The state laws conform with federal rules but vary considerably in regulatory detail.

The federal statute governing packaging and labeling of flour is the Food, Drug and Cosmetic Act of 1938, which became effective June 25, 1939. This law superseded the Food and Drugs Act of 1906. It is administered by the Food and Drug Administration, Federal Security Agency, Washington, D. C. The law applies to foods, drugs and cosmetics which move in interstate commerce. The person shipping or offering to ship in interstate commerce has the responsibility of conforming to the law, no matter whose name appears on the goods, unless he is acting in good faith under a guaranty supplied by the person from whom he received the goods.

The federal act prohibits adulteration and misbranding of articles within its scope. Flour is considered to be adulterated if it or its container consists in any degree of a poisonous or deleterious substance, if it contains any filthy, putrid or decomposed substance, if it has been packed or held under unsanitary conditions or if damage or inferiority has been concealed in any manner.

Label Requirements

A general statement of the labeling requirement for food packages is contained in Section 201 (n) of the Food, Drug and Cosmetic Act, which states:

"If an article is alleged to be misbranded because the labeling is misleading, then in determining whether the labeling is misleading there shall be taken into account (among other things) not only representations made or suggested by statement, word, design, device, or any combination thereof, but also the extent to which the labeling fails to reveal facts material in the light of such representations or material with respect to consequences which may result from the use of the article to which the labeling relates under the conditions of use prescribed in the labeling thereof or under such conditions of use as are customary or usual."

Under the federal law the required labeling information must appear on the side or panel displayed under customary conditions of purchase. If any of the required information should appear elsewhere on the package it must be complete and conform to the requirements for the same information appearing on the main label. The label information must not be false or misleading in any particular. The name of the article must be shown as its usual or common name unless a standard of identity has been established, in which case the name in the standard is required. It is therefore necessary that flour packages carry the appropriate name: flour, enriched flour, bromated flour, enriched bromated flour, durum flour, self-rising flour, enriched self-rising flour, phosphated flour, whole wheat flour, bromated whole wheat flour, whole durum wheat flour, crushed wheat, cracked wheat, farina, enriched farina and semolina.

The label must show the true name and address of the manufacturer, packer or distributor. If the name shown is not that of the actual manufacturer, it must be preceded by "Manufactured for and Packed by", "Distributed by," or other similar phrase. The address shown may be that of the person's principal place of business in lieu of a branch packing or distributing plant provided the statement is not misleading. The name on the package may be a trade name if it has a legally recognized identity and if the manufacturer has a legal right to do business under it. Completely fictitious trade names and those of no recognized legal standing are forbidden.

Weight on Label

The main label must contain an accurate statement of the contents of the package, and must be in terms generally understood by consumers. It is not necessary to use the terms "net" or "net weight" because the statute requires the weight expressed to be net. The term "net weight when packed" is regarded as misleading and should not be used. Reasonable variations in weight from that stated on the label are permitted if the variations are caused by ordinary and customary exposure to conditions which normally occur in good distribution practice, or if caused by unavoidable deviations in weighing individual packages which occur in good distribution practice. All the packages in a given shipment must average as much as the stated weight for a single package, and no unreasonable shortage is permitted even though it may be compensated for by overages in other packages of the same shipment.

Bleached Flour

The word "bleached" must immediately precede or follow the name of the flour, except when the name is part of the trademark or brand. In that case the word "bleached" must be so placed with regard to the trademark or brand as to be conspicuously related to the name.

Under the law a person is exempted from penalties for introducing adulterated or misbranded food into interstate commerce if he establishes a guaranty, signed by the person from whom he received the food in good faith, to the effect that the article is not adulterated or misbranded within the meaning of the act. There are two types of guaranty permitted: (1) covering a specific shipment, in which case it may be attached to the invoice or bill of sale, and (2) general and continuing. The label must not contain any representation that the article is guaranteed under the act.

Enriched Flour

Enriched flour conforms to the definitions and standards of identity established by the Food and Drug Administration, Federal Security Agency (see page 14), and is subject to the requirements for label statement of optional ingredients. Flour and bread standards are interrelated in that bread made from enriched flour will meet the enriched bread standard.

Enrichment standards in milligrams per lb., unless otherwise stated, are as follows:

	Flour standard		Bread standard	
Required	Min.	Max.	Min.	Max.
Thiamine ...	2.0	2.5	1.1	1.8
Riboflavin ...	1.2	1.5	0.7	1.6
Niacin	16.0	20.0	10.0	15.0
Iron	13.0	16.5	8.0	12.5
Optional				
Calcium 500	625		300	500
Vitamin D ..250 USP units	1000		150	750

Label statements for enriched flour as recommended by the Millers National Federation, are:

"Eight ounces of enriched flour supply not less than the following proportions of the minimum daily requirements of thiamine 100%, riboflavin 30%, iron 65%, and 8 mg. of niacin." Thiamine, riboflavin and niacin are B vitamins.

The foregoing declaration covers only the four required ingredients in enriched flour. If desired, the miller may add a parenthetical explanation "(another B vitamin)" following the word "niacin."

If either or both of the optional ingredients, vitamin D and calcium, are added to enriched flour, the declaration would read as follows:

"Eight ounces of enriched flour contain not less than the following proportions of the minimum daily requirements of vitamin B_1 100%, riboflavin 30%, vitamin D 31%, iron 65%, calcium 33%, and 8 mg. of niacin."

The federation has recommended the following declaration for enriched self-rising flour:

"Eight ounces of enriched self-rising flour contain not less than the following proportions of the minimum daily requirements of vitamin B_1 100%, riboflavin 30%, iron 65%, calcium 66%, and 8 mg of niacin."

If vitamin D is to be added as an optional ingredient to enriched self-rising flour, the percentage declaration would be the same as it is with respect to enriched flour, namely, 31%.

Bread Labels

Bread standards are in the process of formulation by the Food and Drug Administration, under the Federal Security Agency, and pending their establishment, labeling regulations are in conformance with the bread standard established by order of the War Food Administration and now incorporated in state and territorial enrichment laws.

The label statement for bread currently recommended by the American Bakers Association and permitted by the Food and Drug Administration, is as follows:

"One half pound of this bread supplies you with at least the following amounts or percentages of your minimum daily requirement for these essential food substances: thiamine (Vitamin B_1) 55%; riboflavin (Vitamin B_2) 17.5%; niacin (another "B" vitamin) 5 milligrams; iron 40%."

However, if 8 slices actually weigh one half pound, it is held permissible and desirable to place a previously recommended reference to "8 slices" in the dietary statement.

The same label statement is proper for enriched white rolls and buns except that the following change should be made: The words "this bread" should be deleted and "these rolls" substituted; the statement would then read "one half pound of these rolls supplies, etc. . . ."

Unless the word "enriched" is used on the label of rolls or buns it is not necessary to use a dietary statement. But should the word "enriched" appear any place on the label other than in the list of ingredients, the dietary statement is required.

These label requirements apply only to those bakery products which move in interstate commerce.

Details of label requirements for wheat flour products and mixtures are contained in "Definitions and Standards for Food," obtainable from the Food and Drug Administration, Federal Security Agency, Washington 25, D. C.

Prepared Mixes

In prepared flour mixes, it is not necessary to show the amounts of each constituent in the mix, but the ingredients should be listed in a descending order of the amounts of each ingredient. All ingredients should be noted on the label, except as permitted in the standard of identity.

Enrichment Premix Standard

A schedule of recommended levels of enrichment ingredients in premixes has been specified by the technical committee of the Millers National Federation. The levels provide a safety factor to insure compliance with government standards for enriched flour.

The recommended levels to be added to each pound of natural flour are: 1.9 mgs thiamine, 1.15 mgs riboflavin, 13.7 mgs niacin, 12 mgs iron. These amounts when added to the amounts in flour should in all cases bring the product up to the minimum standard for enriched flour.

Manufacturers of commercial premixes have been informed of these recommendations and assurance has been given that premixes conforming to these specifications will be made available to millers. These premixes should be added to the flour stream at the rate recommended by the manufacturer and feeders should be adjusted carefully on that basis and watched closely, the federation points out.

The technical committee recommends addition of a uniform amount of the premix to all grades of flour, except that in the rare cases where clears and stuffed straights are treated special rates of addition may be calculated provided the 10% safety factor is observed. It is possible that in some cases short patent flour may require a slight addition to the standard rate of feeding but such instances can be determined by analysis.

State Enrichment Laws

When War Food Administration Order No. 1 was rescinded, Oct. 18, 1946, enrichment ceased to have statutory support except in those states, which, anticipating this event, had passed laws calling for compulsory enrichment. At the beginning of 1951, 26 states and the territories of Hawaii, Alaska and Puerto Rico had such laws, the states being: Alabama, Arkansas, Colorado, Georgia, Indiana, Kansas, Kentucky, Louisiana, Maine, Massachusetts, Mississippi, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Rhode Island, South Carolina, South Dakota, Texas, Washington, West Virginia and Wyoming. Kentucky's law became effective July 1, 1950. All the state laws follow closely those of WFO-1. The required enrichment ingredients are giv-

on on this page. The statutes uniformly exempt flour ground for toll, or flour sold to bakers, distributors and other secondary processors if the sale is accompanied by a certificate from the purchaser of intent to enrich.

Most of the laws include a provision similar to the following: "In the event of an existing shortage or imminent shortage of any required ingredient, with the result that the sale and distribution of flour and bread may be substantially impeded by the enforcement of the statute, an order will be made effective immediately permitting the omission of such ingredients from flour and bread.

Used Flour Sack Regulations

The following 13 states have regulations which prohibit the use of secondhand bags in the packaging and sale of flour: Arizona, Georgia, Illinois, Kansas, Michigan, Montana, Nebraska, New Jersey, North Carolina, Oklahoma, South Carolina, Texas and Washington. Georgia prohibits the use of secondhand bags for packaging and sale of flour except that mills may ship to blenders in used bags, provided such bags have been well laundered, mended and are sanitary and that the blenders use only new bags after blending the flour, and manufacturers may pack flour for their own use in used containers which are well laundered and sanitary. Several states permit the use of secondhand sacks in packaging flour provided they are properly laundered and sanitary. These states are Alabama, Indiana, Iowa, Louisiana, Massachusetts, Minnesota, Mississippi, New York, South Dakota, Tennessee and Wisconsin. The remaining 24 states and the District of Columbia have no regulations prohibiting the use of secondhand containers.

Milling in Transit

Milling in transit is the practice of shipping a carload of a commodity from point A to point B, there unloading it and subjecting it to some process, after which reshipment is made to point C beyond at a through freight rate less than the combination of rates to and from point B—as would be applicable in the absence of the transit-stop provision.

The point at which the commodity originates in the first instance is known as the "point of origin." The point at which the stop is made for processing is the "transit point." The point to which reshipment is later made from the transit point is the "final destination."

When the commodity moves from its point of origin to the transit point the local freight rate thereto is paid; and when reshipment is ultimately made beyond, from B to C, the rate paid is the difference between the rate already paid from A to B and the through rate from A to C. This difference is less than the flat local rate from B to C, and is known as the "transit balance rate."

For example, if the inbound freight rate on wheat from its origin to the milling point is 25¢ a 100 lb., and the freight rate on flour from the milling point to final destination is 50¢ this combination of rates, totaling 75¢, would be paid by the miller at the milling point in the absence of the transit arrangement.

This transit practice seems to have started in 1870 at Nashville, Tenn., where a practice of rebilling or reshipping grain under its provisions was inaugurated. From that beginning it has grown to a point where it has long been a universal practice in the railroad transportation of grain and its products. The same principle is applied to many other commodities.

The theory of it is to give to the shipper or processor the right to stop a shipment at an intermediate point for storage or to change the form or substance of the commodity shipped, and then reship to final destination at a total freight charge not exceeding that applicable had the shipment not been stopped.

The further theory is that the movements to and from the transit or processing point are in fact parts of a single continuous transaction. While the freight is stopped at the transit point, the continuous movement is merely suspended temporarily, the intention of the shipper being to forward the goods to their ultimate destination.

The universal application of transit in connection with freight rates on grain and grain products has resulted from the policy of equalizing transportation costs of various processors — whether located in the wheat fields where the grain is produced, at the final destinations where the grain or its products are consumed, or at points intermediate between the grain fields and points of consumption, in the reasonably normal flow of the traffic.

State Flour Laws

ALABAMA

Legal sizes not designated for packages less than 5 lb. but for packages of 5, 10, 25, 50, 100 and 200 lb. Regulations follow federal practice regarding variations. Flour may be sold at retail in any quantity from bulk stock by merchants, or sold in containers of more than 100 lb. to commercial bakers and blenders, or for export. Label must state net weight and name and address of manufacturer or person responsible for placing the article on the market. Information must be "plainly and conspicuously" marked on outside of package with ingredients given by their common names. Bleached flour must be so labeled. Supervising authority: Dept. of Agriculture and Industries, Montgomery.

ARIZONA

Any size package legal if net weight is correctly shown. Label must state net weight and name and address of manufacturer, jobber or seller. Information, "in clear and distinct English words in legible type" must include grade or class of products. Shrinkage allowance of 2½ % permitted on flour. Supervising authority: Department of Weights and Measures, Phoenix.

ARKANSAS

Any size package legal if net weight is correctly shown. Regulations follow federal practice regarding variations. Label must state net weight and name and address of manufacturer, packer or distributor. If name is not that of the actual manufacturer, it must be qualified by "Manufactured for and packed by," "Distributed by" or other "similar phrase." Label must not be false or misleading in any particular and information must be plainly and correctly stated. Bleached flour must be so labeled. Supervising authority: State Board of Health, Little Rock.

CALIFORNIA

Legal package sizes limited to containers of less than 4 lb. and containers of 5, 10, 25, 50, 100 and multiples of 100 lb. Flour may be sold at retail in any quantity from bulk stock by merchants, or sold in containers of more than 100 lb. to commercial bakers and blenders, or exchanged for wheat by mills grinding for toll, or for export. Label must not be "false or misleading" in any particular. All lettering must be "legible and conspicuous" with the grade or class of product included. Label must state net weight and name and address of manufacturer or person responsible for placing the article on the market. If name is not that of actual manufacturer, it must be preceded by "Packed for," "Distributed

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by," or equivalent phrase. Variations in weight are permitted if due to "unavoidable leakage, shrinkage, evaporation, waste, or causes beyond the control of the seller acting in good faith." For mill products having no legal moisture standard the packer is required to make "a reasonable weight allowance" at the time of packing to compensate for evaporation due to shrinkage. Bleached flour must be so labeled. Supervising authority: Department of Agriculture, Sacramento.

COLORADO

Legal package sizes limited to containers of less than 5 lb. and containers of 5, 10, 25, 50, 100 and multiples of 100 lb. Flour may be sold at retail direct from bulk, or sold in containers of more than 100 lb. to commercial bakers and blenders, or exchanged for wheat by mills grinding for toll, or for export. Label must not be false or misleading in any particular. Required information must be in the English language and, where printed, in type not smaller than 8 pt. (brevier) capitals. Net weight must be shown with "reasonable tolerance for discrepancies due to different atmospheric conditions allowed." Name and address are not required but if given must be correct and words "Packaged by" or "Distributed by" must appear if name is not that of actual manufacturer. Bleached flour must be so labeled. Supervising authority: Division of Sanitation, Department of Public Health, Denver.

CONNECTICUT

Any size package legal if net weight is correctly shown. Label must state net weight and name and address of manufacturer, packer or distributor. If name given is not that of the actual manufacturer, it must be preceded by "Manufactured for and Packed by," or "Distributed by" or equivalent phrase. Regulations authorize tolerance of 12 oz. on 49 lb. sacks and 8 oz. on 24½ lb. Average weight of at least 6 packages must equal weight stated on each. Label must be in the English language and must not be false or misleading in any particular. If any foreign word appears on the label, all required information must be given in the foreign language. Required information must be displayed with sufficient prominence as to render it likely to be read and understood under customary conditions of purchase and use. There are no regulations governing bleached flour. Supervision authority: Commission of Food and Drugs, Hartford.

DELAWARE

Any size package legal if net weight is correctly shown. Standards under the Federal Food, Drug and Cosmetic Act must be observed. Label must be plain and conspicuous with net weight stated. Regulations allow reasonable variations. Bleached flour must be so labeled. Supervising authority: State Board of Health, Dover.

DISTRICT OF COLUMBIA

Any size package legal if net weight is correctly shown. Federal requirements govern label, net weight and bleached flour. Supervising authority: Health Department, Government of the District of Columbia, Washington, D.C.

FLORIDA

Legal package sizes limited to cartons of less than 5 lb. and containers of 2, 5, 10, 25, 50 and 100 lb. Limitations do not apply to flour retailed direct from bulk, sold to the bakery trade or exchanged for wheat. Label must state net weight and name and address of actual manufacturer or distributor in "clearly legible printing or marking." Variations from stated weight are permitted when caused by ordinary and customary exposure, or when caused by unavoidable deviations which normally occur in good distribution practice. Deviations of this kind in any one shipment must be as often above as below, but no unreasonable shortages are permitted. Label must not be false or misleading with required information prominently displayed. Bleached flour must be so labeled. Supervising authority: State Chemist, Department of Agriculture, Tallahassee.

GEORGIA

Legal package sizes limited to cartons of less than 5 lb. and containers of 2, 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to flour retailed from bulk. The label must state full net weight of contents. Letters and figures indicating net contents are required to be in the "same size of type and color as trade or brand name." No provision made for tolerances or variations. Bleached flour must be so labeled. Flour bleached with nitrogen peroxide is considered to be adulterated. Supervising authority: Food and Feed Division, Department of Agriculture, Atlanta.

IDAHO

Legal package sizes limited to cartons, bags or packages of less than 5 lb. and containers of 2, 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to flour retailed direct from bulk, sold in containers of more than 100 lb. to commercial bakers or blenders, exchanged for wheat by mills grinding for toll, or for export. Label must not be "false or misleading in any particular," and is required to be in the English language, in legible type not smaller than 8 pt. heavy gothic capitals. Net weight must be stated and either the name of manufacturer and place of manufacture or name and address of packer or dealer. Bleached flour must be so labeled. Supervising authority: Department of Public Health, Boise.

ILLINOIS

Legal package sizes limited to containers of 2, 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to flour retailed from bulk, or sold in containers of more than 100 lb. to commercial bakers or blenders, or exchanged for wheat by mills grinding for toll, or for export. Label must be printed "plainly and legibly" in English and in type not smaller than 8 pt. brevier capitals, and must include either the name of manufacturer and place of manufacture or name and address of packer or dealer. Names should be "bona-fide" names of individuals or that of a legally incorporated corporation. If any other name is used, the words "not incorporated" are required. Net weight must be stated on label. Regulations provide for reasonable tolerances. Bleached flour must be so labeled. Supervising authority: Division of Foods, Dairies and Standards, Department of Agriculture, 160 N. La Salle, Chicago.

INDIANA

Legal package sizes limited to containers of less than 3 lb. and containers of 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to flour retailed direct from bulk, or sold in containers of more than 100 lb. to commercial bakers or blenders, or exchanged for wheat by mills grinding for toll, or for export. Label must state net weight with name and address of manufacturer, packer or distributor. If name is not that of actual manufacturer, it must be qualified by "Manufactured and Packed by," "Distributed by," or similar phrase. Tolerances are provided for loss of weight under conditions similar to federal rules. Label must not be false or misleading in any particular. Information must be shown plainly and conspicuously. Any flour which complies with Federal Food, Drug and Cosmetic Act will comply with state requirements. Bleached flour must be so labeled. Supervising authority: Food and Drug Bureau, State Board of Health, Indianapolis.

IOWA

Legal package sizes limited to containers of 2, 5, 10, 25, 50 or 100 lb. Label must state net weight and name and address of manufacturer, packer or dealer responsible for contents of package. If name is not that of manufacturer, it must be preceded by "Packed for" or "Distributed by" or equivalent phrase. Information must be printed in English in type not smaller than 8 pt. heavy gothic capitals. Variations of net weight permitted if due to atmospheric conditions or if caused by errors occurring "in packing in compliance with good commercial practice." Variations of latter kind must be as often above as below. Bleached flour must be so labeled. Supervising authority: Dairy and Food Division, Department of Agriculture, Des Moines.

KANSAS

Legal package sizes limited to cartons of less than 5 lb. and containers of 2, 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to flour retailed direct from bulk, or sold for export, or exchanged for wheat by mills grinding for toll, or sold in containers of more than 100 lb. to commercial bakers or blenders. Label must not be "false or misleading" and must be printed in English with required information shown in type not smaller than 8 pt. brevier capitals. Net weight must be "plainly and correctly" stated on outside of package. Name and address of manufacturer must be correctly shown on principal label. If name and address are shown and are not those of the actual manufacturer, they must be preceded by "Packed for," "Distribution by" or an equivalent phrase. Bleached flour must be so labeled. The requirement is identical with federal law. Supervising authority: State Board of Health, Topeka.

KENTUCKY

Legal sizes limited to packages of 2, 5, 10, 25, 50 and 100 lb. Limitations do not apply to flour retailed direct from manufacturer to consumer, nor to flour sold to bakery trade, nor to exchanging wheat for flour, nor to flour packed in cartons of 5 lb. or less. Each container must have its net weight, name and address of actual manufacturer printed or plainly marked on it in "letters and figures clearly legible." Bleached flour must be so labeled. Supervising authority: State Department of Health, 620 S. 3rd St., Louisville, Ky.

LOUISIANA

Any size legal if net weight is correctly shown. Net weight must be shown on label. Regulations follow federal practice with regard to variations. Label must not be "false or misleading" in any particular, and information must be "prominently and conspicuously" displayed. It must contain name and place of business of manufacturer, packer, seller or distributor. If name is not that of the actual manufacturer, it must be qualified by "Manufactured for and Packed by," "Packed for," "Distributed by," or other similar phrase. Address may be the person's principal place of business in lieu of branch plant if statement is not misleading. Label for self-rising flour must show in plain capital letters in English the name and domicile of the manufacturer or dealer, the percentage by weight of each leavening ingredient. Leavening ingredients are limited to 3½% of the self-rising flour. Bleached flour must be so labeled. All enriched flour must be labeled "Enriched Flour." Food manufacturers must register annually with the State Board of Health each product sold in Louisiana. Sample must be supplied on request. Registration fee may not exceed $2.50 for each separate and distinct product, with a maximum of $10 for any one concern. Label specimens must be submitted at time of registration and compliance with the Federal Food, Drug & Cosmetic Act in regard to preparation and packaging will constitute compliance for registration. Supervising authority: State Board of Health, Civil Courts Bldg., New Orleans.

MAINE

Any size package legal if net weight is correctly shown. Label must state net weight. Reasonable variations are permitted. Label must not be false or misleading in any particular with required information "plainly and conspicuously" shown. Place of manufacture must be stated. Bleached flour must be so labeled. Supervising authority: Department of Agriculture, Augusta.

MARYLAND

Any size package legal if net weight is correctly shown. Label must state net weight and place of manufacture. Reasonable variations in weight are permitted. Label requirements are same as those in federal law. Bleached flour must be so labeled. Bleaching which causes damage or conceals inferiority is prohibited. Supervising authority: State Department of Health, Baltimore.

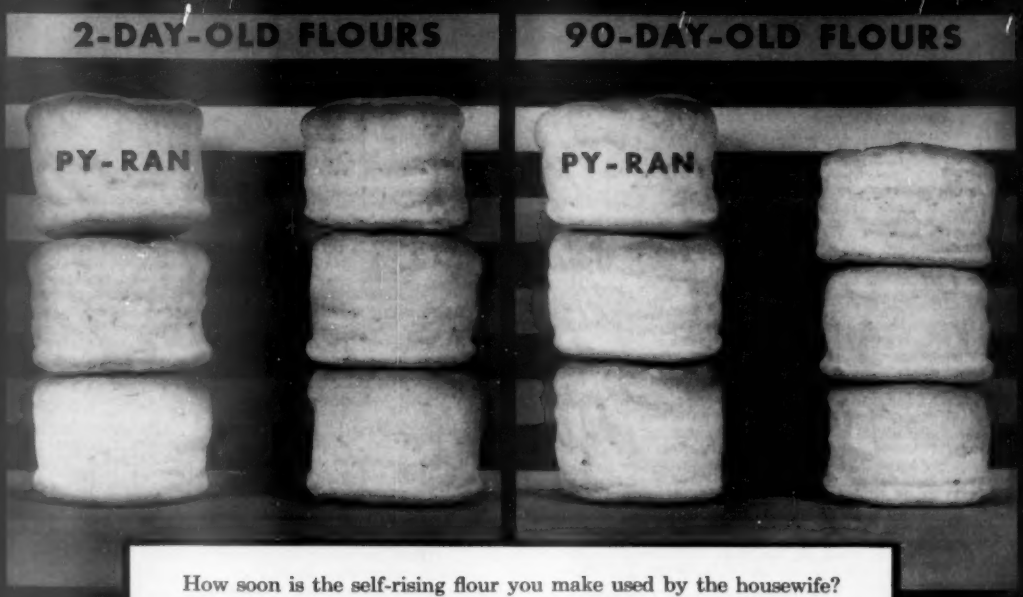
MASSACHUSETTS

Legal package sizes limited to containers of less than 3 lb. and containers of 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to flour retailed direct from bulk, or sold in containers of more than 100 lb. to commercial bakers or blenders, or exchange for wheat by mills grinding for toll, or for export. Label must state net weight. Reasonable variations are permitted under conditions similar to those in federal regulations. Label must be "plain and conspicuous"; type must be large enough to be readily seen and clearly legible under ordinary conditions of purchase. Bleached flour must be so labeled. Enriched flour must be labeled "Enriched Flour." Supervising authority: Division of Standards, Department of Labor and Industries, Boston.

MICHIGAN

Legal package sizes limited to containers of 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to containers of less than 5 lb. or to flour and meals retailed direct from bulk, or sold in containers of more than 100 lb. to commercial bakers or blenders, or exchanged for wheat ground for toll, or for export. Net weight must be shown on principal label in "plain" English words or numerals so that it can be "plainly read." Label must not be false or misleading in any particular. Name and address of manufacturer or distributor must appear on label. Any product containing ground buckwheat or any other cereal product or foreign substances must be distinctly and legibly labeled "Buckwheat Flour Compound" in letters not less than ¼ in. high. Bleached flour must be so labeled. Supervising authority: Department of Agriculture, Lansing.

90-day self-rising flour test proves PY-RAN gives longer shelf life



How soon is the self-rising flour you make used by the housewife? Not in 2 days or a week. More like 30 to 90 days! Here flour leavened with PY-RAN and flour using another calcium phosphate give about equal results when 2 days old. But—when the flours are aged in a heatilator to equal 90 days of package life, only the PY-RAN flour performs like new. The other definitely loses its strength.

PY-RAN'S MOISTURE-ABSORBENT COATING WARDS OFF TOO-EARLY REACTION. Each granule of PY-RAN (monocalcium phosphate) has a moisture-absorbent coating to prevent too-early reaction. Result: longer shelf life for prepared mixes and self-rising flour—minimum of returned goods.

MONSANTO'S PY-RAN HOLDS MAXIMUM LEAVENING ACTION FOR OVEN. PY-RAN releases less CO_2 during the first two minutes of the mixing of the dough or batter. PY-RAN saves its leavening action for the oven.

PY-RAN GIVES SUPERB TEXTURE, VOLUME, CRUST AND CRUMB COLOR. PY-RAN blends perfectly with other leavening agents. Its slow controlled gas release gives excellent texture, volume, and crust and crumb color; almost no tunneling.

MONSANTO OFFERS FULL LEAVENING LINE including: SAPP-40 for machine doughnut mixes; SAPP-28, a slow-action baking acid; and HT* Phosphate (MCP monohydrate).

FREE BOOKLET, "MONSANTO PHOSPHATE LEAVENING AGENTS." Write: MONSANTO CHEMICAL COMPANY, Inorganic Chemicals Division, 710 North Twelfth Street, St. Louis 1, Missouri.

LEAVENING SCHOOL FOR MONSANTO SALESMEN so they can learn your business in order to help you. This is the only school of its type in the industry.
Reg. U. S. Pat. Off.

MONSANTO

SERVING INDUSTRY WHICH SERVES MANKIND

Leavening Phosphates From Monsanto Chemical Company

WORLD'S LARGEST PRODUCER OF ELEMENTAL PHOSPHORUS

★ OUR RECORD OF

A Roll Call of the Major Operations in Construction

ACME MILLS, Hopkinsville, Ky.
(1927) Warehouse and 1,000-barrel Mill. Designed, Erected and Machinery Installed

ALBERS MILLING CO (1934 to date)
Three Elevators with 1,230,000-bu. capacity; Oatmeal Mill at Oakland, Cal.; Kansas City Feed Mill Improvements; Jefferson, Wis., Engineering

ALLIED MILLS, INC. (1949 to date)
Two elevators with 1,650,000-bushel capacity; Peoria Warehouses, Soybean Plant, Taylorville, Ill., Feed Mill, Mason City, Iowa

ANHEUSER-BUSCH, INC., St. Louis, Mo.
(1949) Feed Loadout Buiding, Malt Storage and Other Engineering Work
(1951) Engineering—Corn Storage Elevators and Dust Collecting and Feed Loadout Building

ARKANSAS RICE GROWERS CO-OP. ASSN., Stuttgart, Ark.
(1945) Reinforced Concrete Clean Rice Storage
(1946) 600,000-bushel Rice Storage and Driers
(1948) Clean Rice Storage

ARNOLD MILLING CO., Sterling, Kansas
(1929) 100,000-bushel Concrete Elevator

ATCHISON, TOPEKA & SANTA FE RAILWAY CO.
(1933) Morris, Kansas, Concrete Elevator

ATKINSON MILLING CO., Minneapolis, Minn.
(1939) 500,000-bushel Storage
(1941) Bulk Flour Storage
(1947) Tempering and Cleaning House Addition

AUSTIN-HEATON COMPANY, Durham, N. C.
(1949) Grain Elevator

BALLARD & BALLARD CO., Louisville, Ky.
(1930) 750,000-bushel Additional Storage

BAY STATE MILLING CO., Winona, Minn.
(1949) Bag Conveying System and Flour Bins
(1951) Stock Bins and Mill Feed Storage

BLAIR MILLING CO., Atchison, Kansas
(1923) Concrete Mill and Elevator

BLAW-KNOX CONSTRUCTION CO., Rossford, Ohio
(1951) Concrete Work on Soy Bean Processing Plant

BOARD OF COMMISSIONERS OF THE PORT OF NEW ORLEANS, New Orleans, La.
(1951) Engineering for 2,500,000-bu. Export Elevator

BURLINGTON ELEVATOR CO., Omaha, Neb.
(1929) 600,000-bushel Concrete Elevator

BURRUS MILLS, INC. (Dallas) PROPERTIES
(1920 to date) 2 Flour Mills, 2 Elevators of Million bu. Each and One Storage Addition of 300,000 bu.
(1950) Burrus Mills, S. A., Havana, Cuba. Plans for Flour and Feed Milling Plant

CARGILL, INC., Norris City, Ill.; Mexia, Texas
(1949) Grain Unloading Facilities

CHICAGO, ROCK ISLAND & PACIFIC RAILROAD
(1951) Repairs to Rock Island Elevator, Kansas City, Kansas
(1953) Kansas City, Kansas, Engineering, 1,000,000-bushel Grain Storage

CHICKASHA MILLING CO., Chickasha, Okla.
(1925) 125,000-bushel Storage and Brick Warehouse
(1928) 300-barrel Corn Mill, 300,000-bushel Elevator, Office and Warehouse

COMMANDER-LARABEE MILLING CO. (1930 to date)
Two Elevators with 1,100,000-bushel capacity; Reconstruction Kansas City Flour Mill; Bulk Storage and Packing Building, Kansas City; Wellington, Kansas, Rebuilding Feed Mill

CONTIMAR—S. A., Buenos Aires, Argentina
(1947) San Nicolas, Argentina, Corn Mill

CORCORAN MILLING CO., Corcoran, Cal.
(1945) 250,000-bushel Concrete Grain Elevator

CRETE MILLS, Crete, Neb. (1948 to date)
Feed Mill and Miscellaneous Additions

DES MOINES ELEVATOR & GRAIN CO., Des Moines, Iowa
(1930) 350,000-bushel Additional Storage
(1941) 350,000-bushel Additional Storage

DEWEY PORTLAND CEMENT CO. (8 contracts)
Davenport, Iowa, Reinforced Concrete Stock and Pack House and Cement Storage
Dewey, Okla., Rock Storage
(1948) Dewey, Okla., Sack House

DIXIE PORTLAND FLOUR CO., Higginsville, Mo.
(1944) Concrete Elevator

DIXIE-PORTLAND FLOUR MILLS CO., Richmond, Va.
(1947) 500,000-bushel Grain Elevator

DODGE CITY (KANSAS) TERMINAL ELEVATOR CO.
(1929) 500,000-bushel Concrete Elevator

THE DRACKETT CO., Cincinnati, Ohio
(1945) 1,000,000-bushel Concrete Grain Elevator

EARLY & DANIEL CO., Cincinnati, Ohio
(1939) 1,000,000-bushel Storage
(1945) Reinforced Concrete Feed Mill, Indianapolis, Ind.
(1946) Conversion of Corn Driers, Louisville, Ky.

ENID TERMINAL ELEVATOR CO., Enid, Okla.
(1926) 540,000-bushel Concrete Terminal Elevator
(1927) 500,000-bushel Additional Storage
(1931) 720,000-bushel Additional Storage

FAIR OAKS GRAIN DRYING COOP. ASSN., Fair Oaks, Ark.
(1948) Rice Drier

FARMERS NATIONAL GRAIN CORP., Fremont, Neb.
(1931) 480,000-bushel Additional Storage

FEDERAL MILL, INC., Lockport, N. Y.
(1931) 261,000-bushel Concrete Elevator
(1940) Bulk Flour Storage

FLOUR MILLS OF AMERICA, INC. (1946 to date)
Two Elevators with 1,350,000-bushel capacity; Headhouse and Elevator; Packing Plant at Fort Scott; 4,000-sack Flour Mill, North Kansas City; Flour Storage and Packing Plant, St. Louis.

GALVESTON WHARF CO., Galveston, Texas
(1929) 4,500,000-bushel Concrete Elevator

GENERAL MILLS, INC., Minneapolis (1921 to date)
15 Contracts for 11 Elevators with 6,048,000-bushel capacity, Flour Mills, Feed Mill, Cleaner House, Bulk Storage, Warehouses and Office Buildings
(1951) Rossford, Ohio, 1,500,000-bu. Concrete Elevator

THE GLIDDEN CO., Indianapodis, Ind.
(1953) 1,500,000-bushel Grain Storage

GLOBE GRAIN & MILLING CO., Ogden, Utah
(1930) 750,000-bushel Additional Storage

GOERZ FLOUR MILLS CO., Newton, Kansas
(1920) Concrete Office
(1923) Concrete Warehouse

RAMON GONZALEZ, Nuevo Laredo Tamps, Mexico
(1926) 200-barrel Reinforced Concrete Flour Mill

GREAT WESTERN SUGAR CO., Ovid, Colo.
(1940) Bulk Sugar Storage

HARDEMAN-KING CO., Oklahoma City, Okla.
(1924) Feed Mill, Warehouse and Elevator

HICKORY RIDGE GRAIN DRYING COOP. ASSN., Hickory Ridge, Ark.
(1948) Rice Storage

HIRAM WALKER & SONS, INC., Peoria, Ill.
(1944) 1,100,000-bushel Elevator

HONEYMEAD PRODUCTS CO., Cedar Rapids, Iowa
(1940) 300,000-bushel Elevator

HURON PORTLAND CEMENT CO., Toledo, Ohio
(1953) Cement Storage

IGLEHEART BROS., INC., Vincennes, Ind.
(1940) Corn Shelling Plant

INLAND MILLING CO., Des Moines, Iowa
(1928) 128,000-bushel Additional Storage
(1936) 250,000-bushel Additional Storage

INTERNATIONAL MILLING CO. (1926 to date)
Thirteen Contracts for Nine Elevators and Additions with 7,525,000-bushel capacity; Two Warehouses; Rebuilding a Drier, and Plans for Flour Storage, Packing and Loading Plant

JONESBORO GRAIN DRYING COOP. ASSN., Jonesboro, Arkansas
(1948) Rice Drier

WILLIAM KELLY MILLING CO., Hutchinson, Kansas
(1925) 250,000-bushel Storage Bins
(1927) 250,000-bushel Additional Storage

KIMBELL MILLING CO., Fort Worth, Texas, and Associated Companies (1924 to date)
Ten Contracts for Nine Elevators and Additions with 4,526,000-bushel capacity, Fireproof Warehouse

KIMBELL MILLING CO., Fort Worth, Texas
(1949) 2,000,000-bushel Grain Storage

H. D. LEE FLOUR MILLS CO., Salina, Kansas
(1923) 300,000-bushel Elevator and Tempering Bins

LEVAL & COMPANY, Minneapolis, Minn.
(1941) 1,450,000-bushel Elevator

McGEHEE GRAIN DRYING COOP. ASSN., McGehee, Ark.
(1948) Rice Drier

M. F. A. CO-OP. GRAIN & FEED CO., INC., Mexico, Mo.
(1945) Reinforced Concrete Grain Elevator and Drier
(1950) 400,000-bushel Grain Storage

JONES-HETTELSATER

1911 BALTIMORE

THIRTY-FIVE YEARS ★

for the Milling, Grain and Related Industries . . . .

M. F. A. MILLING CO., Aurora, Mo.
(1945) Remodeling Feed Mill

MILLER MALTING CO., Los Angeles, Calif.
(1938) 250,000-bushel Elevator & Barley Malting Plant
(1947) 500,000-bushel Grain Storage; New Malt House
(1941) 250,000-bushel Elevator
(1944) Additions to Malting Plant

MISSOURI PORTLAND CEMENT CO., Kansas City, Mo.
(1936) Additional Cement Storage
(1940) New Packing Plant
(1941) Additional Plant Improvements

MONTANA FLOUR MILLS CO., Cleveland, Ohio
(1936) 500,000-bushel Concrete Elevator

MORRISON MILLING CO., Denton, Texas
(1950) Completion of Elevator

NATIONAL OATS CO., E. St. Louis, Ill.
(1945) 363,000-bushel Reinforced Concrete Elevator

NEBRASKA CONSOLIDATED MILLS CO., Omaha, Neb.
(1935) 350,000-bushel Elevator at Grand Island, Neb.
(1940) Flour Mill Building and Warehouses and 250,-000-bushel Elevator at Decatur, Ala.

NORTHWEST LINSEED CO., Minneapolis, Minn.
(1947) 300,000-bushel Grain Storage

WILLIS NORTON CO., Wichita, Kansas
(1928) 500,000-bushel Additional Storage

OKLAHOMA WHEAT POOL ELEV. CORP., Enid, Okla.
(1930) 1,000,000-bushel Concrete Elevator

PACIFIC CO-OP. POULTRY PRODUCERS, Eugene, Oregon
(1945) Reinforced Concrete Feed Mill and Elevator

PEARLSTONE MILL & ELEVATOR CO., Dallas, Texas
(1922) 175,000-bushel Concrete Elevator
(1923) 140,000-bushel Additional Storage
(1925) 300-barrel Corn Meal Mill
(1927) 300,000-bushel Additional Storage

PILLSBURY MILLS, INC. (1928 to date)
Seven Elevators with 7,030,000-bushel capacity; two Flour Mills; Cereal Plant; Bulk Flour Storage, Packing Plants, Warehouses and Feed Mills

PORT OF BOSTON AUTHORITY, Hoosac Pier, Charlestown, Mass.
(1949) Improvements to Port Elevator

POULTRY PRODUCERS OF CENTRAL CALIFORNIA, Petaluma, Calif.
(1937) 500,000-bu. Elevator, Feed Mill and Warehouses

POULTRYMEN'S CO-OPERATIVE ASS'N OF SOUTHERN CALIFORNIA, Los Angeles, Calif.
(1941) 250,000-bushel Elevator

E. G. RALL GRAIN CO., Fort Worth, Texas
(1924) 200,000-bushel Concrete Storage
(1929) 200,000-bushel Additional Storage

RALSTON PURINA CO. (1924 to 1950)
Four New Feed Mills; 14 Elevators or Additions to 3 Feed Mills; 2 Soybean Plants; 5 Warehouses; 12 Elevators with Storage Capacity of 3,235,000 bushels; numerous office buildings and remodeling jobs
(1951) Delmar, Del., Feed Plant
(1952) Shreveport, La., Feed Plant
(1952) Spokane, Wash., Feed Plant Engineering
(1953) Delmar, Del., Grain Storage and Warehouse Addition
(1953) Wilson, N. C., Feed Mill, Grain Elevator and Warehouses

E. C. RHODEN ENTERPRISES, Tarkio, Mo.
(1953) Engineering

ROANOKE CITY MILLS, INC., Roanoke, Va.
(1935) 150,000-bushel storage
(1944) Reinforced Concrete Feed Mill

RODNEY MILLING CO., Kansas City, Mo.
(1931) 363,000-bushel Additional Storage
(1936) 400,000-bushel Additional Storage

RUSSELL-MILLER MILLING CO., Alton, Ill.
(1946) 10,000-sack Flour Mill and 1,000,000-bu. Elevator

RUSSELL-MILLER MILLING CO., Dallas, Texas
(1947) Flour Storage and Packing Plant

SCHULTZ, BAUJAN & CO., Beardstown, Ill.
(1948) Feed Mill

SCOTT COUNTY MILLING CO., Sikeston, Mo.
(1940) 300,000-bushel Elevator

SECURITY ELEVATOR CO., Hutchinson, Kansas
(1925) 200,000-bu. Storage Bins; Additions in 1928, 1929

SHAWNEE MILLING CO., Shawnee, Okla.
(1920) 300,000-bushel Concrete Elevator
(1931) 230,000-bushel Additional Storage
(1934) 1,000-barrel Flour Mill

SOUTHWEST TERMINAL ELEVATOR CO., Enid, Okla
(1926) 540,000-bushel Reinforced Concrete Terminal Grain Elevator
(1927) 500,000-bushel Additional Storage

SPENCER KELLOGG & SONS, INC., Decatur, Ill.
(1939) 1,000,000-bushel Storage

A. E. STALEY MFG. CO., Decatur, Ill.
(1939) 2,500,000-bushel Storage

STANDARD MILLING CO., Kansas City, Kansas
(1947) Flour Storage and Packing Plant

THEO. STIVERS MILLING CO., Rome, Ga.
(1930) 600-barrel Concrete Flour Mill

SUTTER BASIN GROWERS' CO-OPERATIVE, Knights Landing, Cal., 350,000-barrel Concrete Elevator

TERMINAL GRAIN CORP., Sioux City, Iowa
(1928) 500,000-bushel Additional Storage
(1941) 500,000-bushel Additional Storage

UNITED MILLS CO., Grafton, Ohio
(1931) 300,000-bushel Concrete Elevator
(1935) 300,000-bushel Storage

UNITED STATES ARMY
(1942-44) Construction at Various Military Installations

V-O MILLING CO., Los Angeles, Calif.
(1933) 500,000-bushel Concrete Elevator, Warehouses and 800-barrel Flour Mill
(1937) Concrete Flour Storage, Blending Plant and Grain Storage

WABASH MOTOR TRANSIT CO., St. Louis, Mo.
(1953) Engineers for 2,500,000-bu. Elevator at St. Louis

WALL-ROGALSKY MILLING CO., McPherson, Kansas
(1928) 150,000-bushel Additional Storage

WALNUT CREEK MILLING CO., Great Bend, Kansas
(1922) 250,000-bushel Concrete Elevator

WASHINGTON CO-OPERATIVE FARMERS ASSN., Tacoma, Wash.
(1947) Feed Mill
(1952) 350,000-bushel Additional Storage

WEINER GRAIN DRYING COOP. ASSN., Weiner, Ark.
(1948) Rice Drier

WESTERN COTTONOIL CO., Abilene, Texas
(1949) Feed Mill Remodeling

WESTERN TERMINAL ELEVATOR CO., Hutchinson, Kansas
(1927) 250,000-bushel Concrete Elevator
(1928) 300,000-bushel Additional Storage
(1930) 600,000-bushel Additional Storage

J. C. WHALEY ELEVATOR, Lubbock, Texas
(1927) 500,000-bu. Concrete Elevator and Head House

WHEATLEY GRAIN DRYING COOP. ASSN., Wheatley, Ark.
(1948) Rice Drier

1954

Allied Mills, Inc., Cozad, Neb., 250,000-bu. Alfalfa Storage

Aubrey Feed Mills, Louisville, Ky., Reinforced Concrete Feed Mill and Related Buildings

Dannen Mills, Inc., St. Joseph, Mo., Reinforced Concrete Feed Mill

General Mills, Inc., Belmond, Iowa, Reinforced Concrete Feed Mill

The Glidden Company, Chicago, Ill., 6,500,000-bushel Terminal Grain Elevator

Bartlett & Co.—Grain, Kansas City, Mo., 3,000,000-bushel Reinforced Concrete Grain Storage

Mid-Continent Grain Co., Kansas City, Mo., 350,000-bushel Reinforced Concrete Grain Storage

Ralston Purina Co., Kansas City, Mo., 2,000,000-bushel Soybean Elevator

Ralston Purina Co., Shreveport, La., Additional Reinforced Concrete Grain Storage

Shawnee Milling Co., Shawnee, Okla., 1,000,000-bushel Reinforced Concrete Grain Elevator

Staley Milling Co., North Kansas City, Mo., Reinforced Concrete Feed Mill and Related Buildings

CONSTRUCTION COMPANY

KANSAS CITY 8, MISSOURI

MINNESOTA

Legal package sizes limited to containers of less than 3 lb. and containers of 3, 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to flour retailed direct from bulk, or sold in containers of more than 100 lb. to commercial bakers or blenders, or exchanged for wheat by mills grinding for toll, or for export. Net weight must be "plainly and conspicuously" marked on label. Variations are permitted (1) resulting from errors in weighing which occur in good packing practice (must be as often above as below) and (2) resulting from differences in atmospheric conditions which cause evaporation or absorption of water in ordinary and customary exposure of the packages. Amount of tolerance depends on the facts in each case. Label must not be false or misleading in any particular with required information in English and in type not smaller than 8 pt. brevier caps. Name and address of manufacturer, producer, or person responsible for flour must be given. Words "Packed for," "Distributed by" or an equivalent phrase must appear if name is not that of actual manufacturer. Address may be that of the person's principal place of business instead of branch plant if statement is not misleading. Mixed flour made from different cereals must bear on the label "names of the ingredients plainly stated in order of their predominance and printed in uniform size type." A product which contains both buckwheat flour and another cereal product must be labeled "compound buckwheat and..... flour," or "buckwheat and .....flour mixture." Bleached flour must be so labeled. Supervising authority: Department of Agriculture, Dairy and Food, St. Paul.

MISSISSIPPI

Legal package sizes are limited to containers of net avoirdupois weights of 2, 5, 10, 25, 50 and 100 lb., and multiples of 100 lb.; wheat flour, self-rising wheat flour, phosphated wheat flour, bromated flour, enriched flour, enriched self-rising flour, enriched bromated flour, corn flour, corn meals, hominy and hominy grits; provided, however, that the provisions of this act shall not apply to (a) the retailing of flours, meals, hominy and hominy grits direct to the consumer from bulk stock, or (b) the sale of flours and meals to commercial bakers or blenders or for export in containers of more than 100 lb., or (c) flours, meals, hominy and hominy grits packed in cartons the net contents of which are less than 5 lb., or (d) the exchange of wheat for flour by mills grinding for toll. Provided that this act shall not apply to stock on hand at time of enactment.

MISSOURI

Legal package sizes limited to containers of less than 3 lb. and containers of 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to flour retailed direct from bulk, or sold in containers of more than 100 lb. to commercial bakers or blenders, or exchanged for wheat by mills grinding for toll, or sold for export. Net weight must be shown on label. Authorities follow federal practice in regard to variations. Label must not be false or misleading with required information "prominently and conspicuously" displayed. Name and place of business of manufacturer, packer or distributor must be given. If name is not that of actual manufacturer, it must be qualified by "Manufactured for and packed by," "Distributed by" or other similar phrase. Label on mixed flour must show kinds of grain in the mixture and name and address of manufacturer. Bleached flour must be so labeled. Requirements will be met if Federal Food, Drug and Cosmetic Act is followed. Supervising authority: Bureau of Food and Drug Inspection, Division of Health, Jefferson City.

MONTANA

Any size package legal if net weight is correctly shown on label. Label must be in "plain, intelligible words and figures" and must meet federal requirements. Supervising authority: Environmental Sanitation Division, State Board of Health, Helena.

NEBRASKA

Legal package sizes limited to containers of 5 lb. or less, and containers of 10, 25, 50, 100 and 200 lb. Rye and whole wheat flour must be sold in packages of less than 5 lb. or 5, 10, 25, 50 or 100 lb. Flour "prepared for special purposes" may be sold in other sized packages. Label must not be "deceiving or misleading" to the purchaser. Net weight must be clearly printed on label with name of manufacturer and place of manufacture. Food packages containing gifts, premiums or prizes are deemed to be misbranded. Bleached flour must be so labeled. Supervising authority: Department of Agriculture and Inspection, Lincoln.

MARSH & McLENNAN
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CONSULTING ACTUARIES
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1515 Northwestern Bank Building • Minneapolis
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Toronto Pittsburgh Seattle Vancouver St. Louis Indianapolis Montreal
St. Paul Duluth Portland Buffalo Atlanta Calgary Washington
Tulsa New Orleans Phoenix Milwaukee Cleveland Havana London

NEVADA

Legal package sizes limited to cartons of less than 5 lb. and containers of 2, 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to flour retailed direct from bulk, or sold in containers of more than 100 lb. to commercial bakers, blenders, or for export, or exchanged for wheat by mills grinding for toll. Label must not be false or misleading in any respect, must bear net weight. Reasonable variations are permitted. Name and place of business of manufacturer must appear on label. If name is not that of actual manufacturer, it must be preceded by "Manufactured for and packed by," "Distributed by" or other equivalent phrase. Bleached flour must be so labeled. Supervising authority: Department of Food and Drug, Public Service Division, University of Nevada, Reno.

NEW HAMPSHIRE

Legal package sizes limited to cartons of less than 5 lb. and containers of 2, 5, 10, 25, 50, 100 and multiples of 100 lbs. Flour may be sold at retail in any quantity from bulk stock, or sold in containers of more than 100 lb. to commercial bakers and blenders, or for export. Label must state net weight. Regulations authorize "reasonable variations." Name and place of business of manufacturer, packer or distributor must appear on label. Law is identical with Federal Food, Drug and Cosmetic Act. Label must not be false or misleading in any particular. Required information must be displayed with sufficient prominence as to render it likely to be read and understood under customary conditions of purchase and use. Bleached flour must be so labeled. Sale of bleached flour is prohibited if bleaching serves to conceal inferiority. Supervising authority: State Board of Health, Concord.

NEW JERSEY

Any size package legal if net weight is correctly shown on label. Reasonable variations are permitted. Label must not be false or misleading in any particular, with information "plain and conspicuous." Label must show name and address of manufacturer, packer or distributor. Unenriched flour, sold to distributors, bakers, or other processors accompanied by a certificate of intent on the part of the purchaser to enrich, must be marked "in a plain and conspicuous manner" with the words, "unenriched flour." Supervising authority: Department of Health, Trenton, also Department of Weights and Measures, Trenton.

NEW MEXICO

Legal package sizes limited to cartons of 2, 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to flour retailed direct from bulk, or sold in containers of more than 100 lb. to commercial bakers or blenders, or for export, exchanged for wheat by mills grinding for toll or to flour packed in containers of less than 5 lb. Label must be in letters 1 in. high. Net weight must be stated on package with reasonable tolerances authorized. Bleached flour must be so labeled. Supervising authority: State Department of Public Health, Santa Fe.

NEW YORK

Legal package sizes limited to containers over 3 lb. and containers of 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to flour retailed direct from bulk, or sold to commercial bakers, blenders, or for export, or exchanged for wheat by mills grinding for toll, or to flours and meals packed in containers, the net contents of which are less than three pounds. Net weight must be stated on container. Variations of 3% are allowed. Lettering indicating weight must be at least 1/9 in. on packages of less than 10 lb., at least ¼ in. on packages from 10 to 100 lb. and at least ½ in. high on packages of more than 100 lb. Label must include name and place of business of manufacturer, packer or distributor, and must not be false or misleading in any particular. Required information must be displayed with "sufficient prominence as to render it likely to be read and understood under customary conditions of purchase and use." Bleached flour must be so labeled. It is mandatory that all unenriched flour be labeled "Unenriched." Supervising authority: Department of Agriculture and Markets, Albany.

NORTH CAROLINA

Legal sizes limited to packages of 3 lb. or less and packages of 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to flour retailed direct from bulk. Net weight must be shown on label. Reasonable variations allowed. Label must show name and place of business of manufacturers, packer or distributor and must not be false or misleading in any particular. Information must be prominently and conspicuously displayed. Bleached flour must be marked

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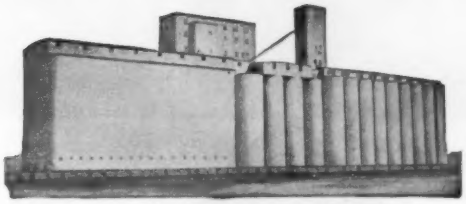

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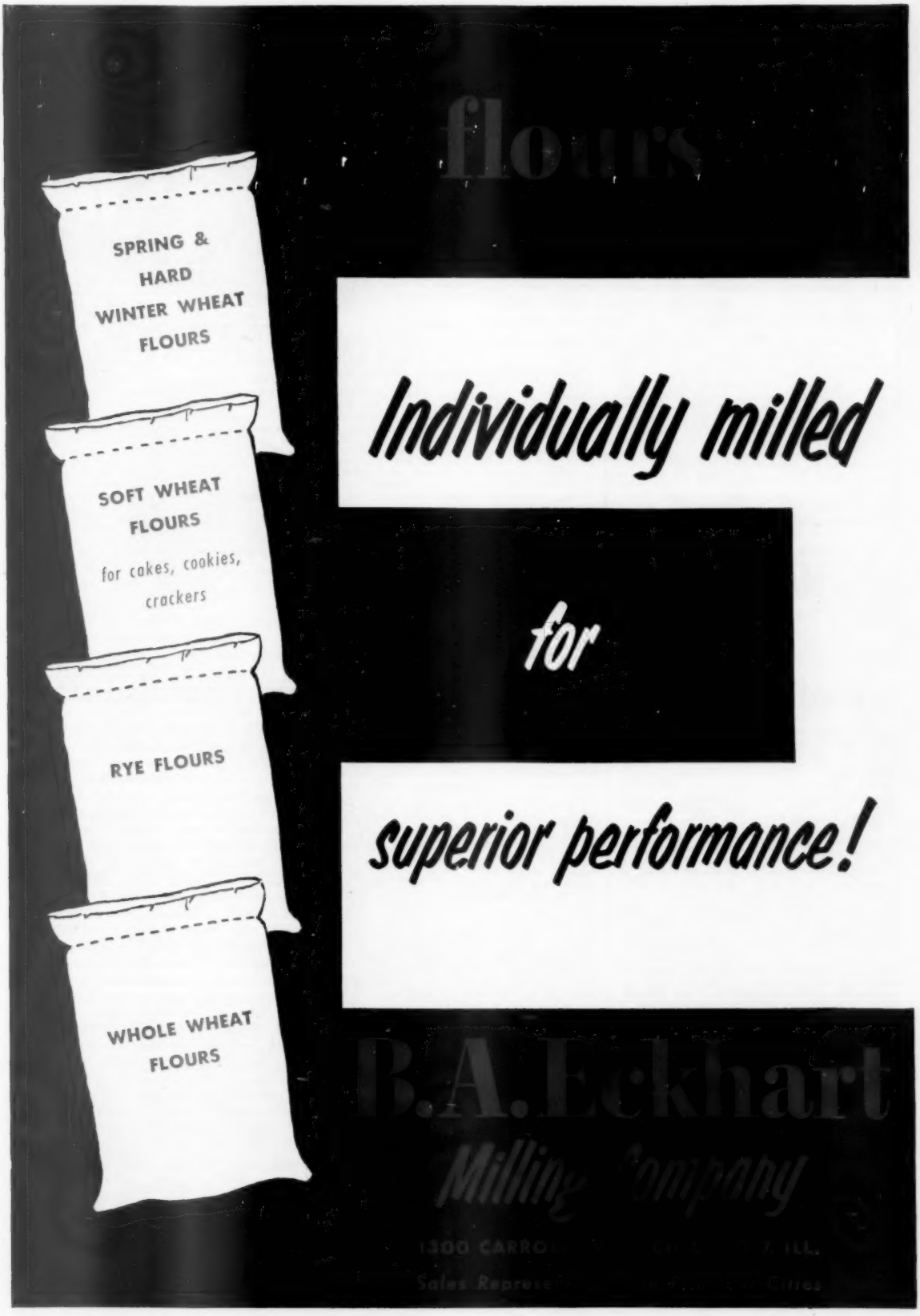
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"artificially bleached" in letters not smaller than ¾ in. in size. Each brand of bleached flour must be registered with the Commissioner of Agriculture for which an annual fee of $15 is charged. Supervising authority: State Chemist, Department of Agriculture, Raleigh.

NORTH DAKOTA

Legal package sizes limited to containers of less than 5 lb. and containers of 2, 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to flour retailed direct from bulk, or sold in containers of more than 100 lb. to commercial bakers or blenders, or for export, or exchanged for wheat by mills grinding for toll. Label must not be deceptive or misleading and must be legibly and plainly written or printed. Net weight must be plainly and conspicuously stated on label. Regulations follow federal practice as to tolerances. Name and address of manufacturer, jobber, or other person responsible for placing flour on the market must be shown on label. Bleached flour must be so labeled; any harmless agent may be used for bleaching flour. Supervising authority: State Laboratories Department, Bismarck.

OHIO

Legal package sizes limited to containers of less than 3 lb. and containers of 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to flour retailed direct from bulk, or sold in containers of more than 100 lb. to commercial bakers or blenders, or for export, or exchanged for wheat by mills grinding for toll. Label must be plain and conspicuous and printed in English and must include name and address of either manufacturer, packer or distributor. Net weight must appear on label. Regulations provide for tolerances. Bleached flour must be so labeled. Supervising authority: Division of Foods and Dairies, Department of Agriculture, Columbus.

OKLAHOMA

The Oklahoma Food Act (1949) conforms to the food sections of the Federal Food, Drug & Cosmetics Act. The Federal Definitions and Standards of Identity for Flour and Related Products have been adopted (Nov. 28, 1954). Legal package sizes limited to cartons of less than 5 lb. and containers or 2, 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to flour retailed direct from bulk, or sold in containers of more than 100 lb. to commercial bakers or blenders, or for export, or exchanged for wheat by mills grinding for toll. Net weight must be shown on label. Label must not be false or misleading in any particular. Information must be plainly and correctly stated. Bleached flour must be so labeled. Food manufacturers doing business in Oklahoma must register, annually, firm or corporate names and addresses with the state commissioner of health. Fee, $1 due by July 1. Manufacturers who have paid merchant's license fee of $1 per year are exempt. Supervising authority: State Department of Health, Oklahoma City.

OREGON

Legal package sizes limited to containers of 1, 2, 5, 10, 25, 50, 100 and 200 lb. Limitations do not apply to flour retailed direct from bulk, or sold in containers of more than 100 lb. to commercial bakers or blenders, or for export, or exchanged for wheat by mills grinding for toll. Net weight must be stated on label. Name and address of manufacturer, packer or distributor must appear on label which must not be false or misleading in any particular. Required information must be conspicuously displayed. Bleached flour must be so labeled. Supervising authority: Division of Foods and Dairies, State Department of Agriculture, Salem.

PENNSYLVANIA

Legal package sizes limited to containers of less than 3 lb. and containers of 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to flour retailed direct from bulk, or sold in containers of more than 100 lb. to commercial bakers or blenders, or for export, or exchanged for wheat by mills grinding for toll. Required information must "be prominently displayed in a plain, conspicuous, legible manner on the main label panel." Net weight must be plainly and conspicuously marked on outside of package. Authorities require word "net" to be used. There is a provision for tolerances, but before tolerances are granted "producers and manufacturers of commodities must make written application for a tolerance to the department and must furnish written proof that the use value of the commodity will not be affected by the granting of the tolerance." Label must contain name and address of the manufacturer, packer or distributor. Name used must be preceded by "manufactured by," "packed by," "distributed by," or "packed for," as the case may be or followed by "Manufacturer," "Packer," "Wholesale Dealer," or "Distributor," as the case may be. Dealers and distributors whose names appear on food packages are required to maintain for five years a record of name and address of manufacturer or packer. Private brand goods are also required to carry a code marking which will identify to the wholesaler or distributor the name and address of the manufacturer or packer of any given package. Distributors or wholesalers are required to keep records of these code markings for five years. Bleached flour must be so labeled. Supervising authority: Bureau of Standards and Measures, Department of Internal Affairs, Harrisburg; also Department of Agriculture, Harrisburg.

RHODE ISLAND

Any size package legal if net weight is correctly shown. Net weight must be shown on label; reasonable tolerances are provided for. Federal requirements govern label. Bleached flour must be so labeled. Supervising authority: Division of Food and Drug Control, State Department of Health, Providence.

SOUTH CAROLINA

Legal package sizes limited to cartons of less than 5 lb. and containers of 2, 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to flour retailed direct from bulk, or sold in containers of more than 100 lb. to commercial bakers or blenders, or for export, or exchanged for wheat by mills grinding for toll. Net weight must be "plainly marked" on label. Letters and figures must be at least 1 in. in length. No tolerances are allowed. Label must not be false or misleading in any particular. Information must be "plain and correct." Bleached flour must be so labeled. Supervising authority: Department of Agriculture, Columbia.

SOUTH DAKOTA

Legal package sizes limited to cartons of less than 5 lb. and containers of 2, 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to flour retailed direct from bulk, or sold in containers of more than 100 lb. to commercial bakers or blenders, or for export, or exchanged for wheat by mills grinding for toll. Net weight must be shown on label. Regulations follow federal practices with regard to variations. Label must contain name and address of manufacturer, jobber, wholesaler or other person responsible for placing article on market. If manufacturer produces a food in more than one plant, actual place of manufacture of each package need not be stated on label unless location named is misleading. Label must be "plain and conspicuous." Bleached flour must be so labeled with word "Bleached" printed in capital letters. Supervising authority: Department of Agriculture, Pierre.

TENNESSEE

Legal package sizes limited to containers of 2, 5, 10, 25, 50, 100 and multiples of 100 lb. Buckwheat, wholewheat, pancake, prepared biscuit and cake flours may be sold in packages of 5 lb. or less. Limitations do not apply to flour retailed direct from bulk, or sold in containers of more than 100 lb. to commercial bakers or blenders, or for export, or exchanged for wheat by mills grinding for toll. Net weight must be shown on label. Reasonable variations are allowed. Label must not be false or misleading in any particular. Required information must be "prominently and conspicuously" displayed. Bleached flour must be so labeled. Supervising authority: Division of Foods, Drugs and Dairies, Department of Agriculture, Nashville.

TEXAS

Legal sizes limited to packages of 2, 5, 10, 25, 50, 100, 150 and 200 lb. Specialty flours may be packed in any size package of 5 lb. or less. Limitations do not apply to flour retailed direct from bulk, or sold to bakeries for exclusive use in the bakeries or exchanged for wheat by mills grinding for toll. Net weight must be stated on label. Regulations follow federal practice regarding variations. Label must be "printed or plainly marked in letters and figures clearly readable." Information must be plainly and conspicuously displayed and must not be false or misleading in any particular. Name of manufacturer (person, firm, association or corporation which processes the wheat or other cereal into flour) and the name of the place where milled must appear on label. Bleached flour must be so labeled. All manufacturers of food doing business in Texas must register annually by Sept. 1 with the State Health Officer, Austin; fee, $1. Supervising authority: State Department of Health, Austin; also Division of Weights and Measures, State Department of Agriculture, Austin.

UTAH

Legal package sizes limited to cartons of less than 5 lb. and containers of 2, 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to flour retailed direct from bulk, or sold in containers of more than 100 lb. to commercial bakers or blenders, or sold for export, or exchanged for wheat by mills grinding for toll. Net weight must be stated on label. "Reasonable variation and tolerance" allowed. Label must not be false or misleading in any particular. Information must be "plain and conspicuous." Bleached flour must be so labeled. Supervising authority: Dairy and Food Division, Department of Agriculture, Salt Lake City.

VERMONT

Any size package legal if net weight is correctly shown. Net weight must be shown on label. There is provision for reasonable tolerances. Label must be plain and conspicuous and must not be false or misleading in any particular. Name and place of business of manufacturer, packer or distributor must appear on label. If name is not that of actual manufacturer, it must federal requirements it is satisfactory. be qualified by "Packed for," "Distributed by" or other similar phrase. If label meets Bleached flour must be so labeled. Supervising authority: State Department of Health, Burlington, and State Department of Agriculture, Montpelier.

VIRGINIA

Legal sizes limited to packages of 3 lb. or less, and packages of 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to flour retailed direct from bulk, or sold in containers of more than 100 lb. to commercial bakers or blenders, or exchanged for wheat by mills grinding for toll. Net weight must be shown immediately above or below the principal label. Reasonable variations permitted. Label must not be false or misleading in any particular. Information must be "plain and conspicuous." Label must contain name and place of business of the manufacturer, packer or distributor. Bleached flour must be so labeled. Supervising authority: Division of Dairy and Foods, Department of Agriculture and Immigration, Richmond.

WASHINGTON

Legal package sizes limited to containers of less than 5 lb. and containers of 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to flour retailed from bulk. Net weight must be shown on label. Label must contain name and place of business of manufacturer, packer and distributor. Bleached flour must be so labeled. Supervising authority: Department of Agriculture, Olympia.

WEST VIRGINIA

Legal package sizes limited to cartons of less than 5 lb. and containers of 2, 5, 10, 25, 50, 100 and multiples of 100 lb. Limitations do not apply to flour retailed direct from bulk, or sold in containers of more than 100 lb. to commercial bakers or blenders, or for export or exchanged for wheat by mills grinding for toll. Net weight must be stated on label. Tolerance permitted is ½ of 1%. Label must be in a conspicuous place in legible type and of sufficient size to be easily read. Bleached flour must be so labeled. Supervising authority: Department of Agriculture, Charleston; also Division of Weights and Measures, Department of Labor, Charleston.

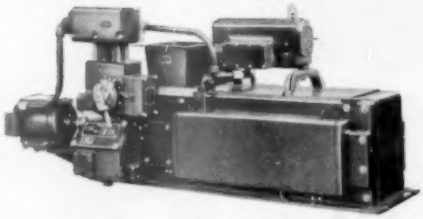
WISCONSIN

Legal package sizes limited to containers of 2, 5, 10, 25, 50, 100 and 200 lb. Specialty cake and pancake making flours may also be packed in containers of less than 3 lb. Limitations do not apply to flour retailed direct from bulk, or sold in containers of more than 100 lb. to commercial bakers or blenders, or for export or exchanged for wheat by mills grinding for toll. Net weight must be shown on label. Reasonable tolerances permitted. Information on label must be plain and conspicuous. Name and address of manufacturer, packer or dealer must appear on outside of package. Bleached flour must be so labeled. Supervising authority: Department of Agriculture, Madison.

WYOMING

Any size package legal if net weight is correctly shown. Net weight must be shown on label. Label must be in a conspicuous place and of sufficient size to be readily seen by the purchaser. Name and address of manufacturer or distributor are required to appear on label. Bleached flour must be so labeled. Supervising authority: State Department of Agriculture, Cheyenne.

CONTINUOUS WEIGHING



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Definitions and Standards of Identity for Flour

Definitions and standards of identity for wheat flour and related products were promulgated in 1941 by the Federal Security Agency, effective Jan. 1, 1942, under the Federal Food, Drug and Cosmetic Act of 1938. Previously it had been the responsibility of the Secretary of Agriculture to provide standards of identity for flour under the Federal Food and Drug Act of 1906, but standards thus established were informal and without the force and effect of law. The act of 1938 not only broadened the government's pure food activities but greatly enlarged its regulatory powers. The definitions and standards of identity were amended in 1943 to cover the enrichment of flour, and were again amended, effective Oct. 21, 1948, legalizing the use of potassium bromate in flour regardless of the protein content of the flour. Effective Feb. 25, 1949, chlorine dioxide was made an optional ingredient in substitution for nitrogen trichloride (Agene), use of which was prohibited after Aug. 1, 1949.

The definitions and standards of identity for wheat flour, as amended, are as follows:

Section 15.00. **Flour, white flour, wheat flour, plain flour; identity; label statement of optional ingredients.** (a) Flour, white flour, wheat flour, plain flour, is the food prepared by grinding and bolting cleaned wheat other than durum wheat and red durum wheat; to compensate for any natural deficiency of enzymes, malted wheat, malted wheat flour, malted barley flour, or any combination of two or more of these, may be used; but the quantity of malted barley flour so used is not more than 0.25%. One of the cloths through which the flour is bolted has openings not larger than those of woven wire cloth designated "149 micron (No. 100)" in Table I of "Standard Specifications for Sieves," published March 1, 1940, in L. C. 534 of the U. S. Department of Commerce, National Bureau of Standards. The flour is freed from bran coat, or bran coat and germ, to such extent that the per cent of ash therein, calculated to a moisture-free basis, is not more than the sum of one twentieth of the per cent of protein therein, calculated to a moisture-free basis, and 0.35. Its moisture content is not more than 15%. Unless such addition conceals damage or inferiority of the flour or makes it appear better or of greater value than it is, one or any combination of two or more of the following optional bleaching ingredients may be added in a quantity not more than sufficient for bleaching or, in case such ingredient has an artificial aging effect, in a quantity not more than sufficient for bleaching and such artificial aging effect:

(1) Oxides of nitrogen.
(2) Chlorine.
(3) Nitrosyl chloride.
(4) Chlorine dioxide.
(5) One part by weight of benzoyl peroxide mixed with not more than six parts by weight of one or any mixture of two or more of the following: potassium alum, calcium sulfate, magnesium carbonate, sodium aluminum sulfate, dicalcium phosphate, tricalcium phosphate, starch, calcium carbonate.

(b) When any optional bleaching ingredient is used, the label shall bear the word "Bleached." Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the word "Bleached" shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter; except that where such name is a part of a trademark or brand, other written, printed, or graphic matter, which is also a part of such trademark or brand, may so intervene if the word "Bleached" is in such juxtaposition with such trademark or brand as to be conspicuously related to such name.

(c) For the purposes of this section:

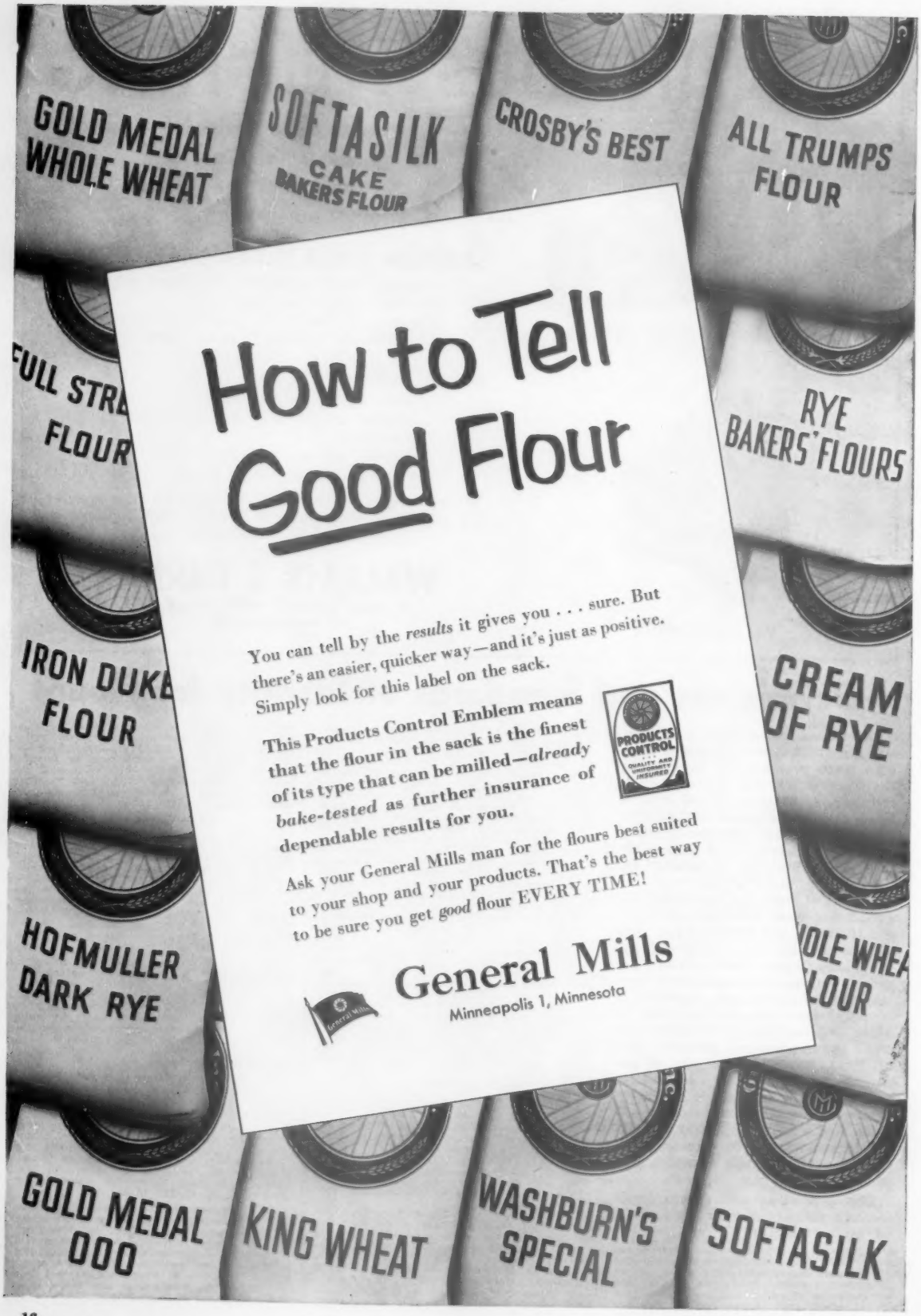
(1) Ash is determined by the method prescribed in the book "Official and Tentative Methods of Analysis of the Association of Official Agricultural Chemists," 5th edition, 1940, page 212, under "Method I —Official." (Ed. note: 6th Ed., 1945, p. 238.) Ash is calculated to a moisture-free basis by subtracting the per cent of moisture in the flour from 100, dividing the remainder into the per cent of ash, and multiplying the quotient by 100.

(2) Protein is 5.7 times the nitrogen as determined by the method prescribed in such book on page 26, under "Kjeldahl-Gunning-Arnold Method — Official." (Ed. note: 6th Ed., 1945, p. 27.) Protein is calculated to a moisture-free basis by subtracting the per cent of moisture in the flour from 100, dividing the remainder into the per cent of protein, and multiplying the quotient by 100.

(3) Moisture is determined by the method prescribed in such book on page 211, under "Vacuum Oven Method — Official." (Ed. note: 6th Ed., 1945, p. 237.)

Sec. 15.10. **Enriched flour; identity; label statement of optional ingredients.** Enriched flour conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for flour by Section 15.00, except that:

(a) It contains in each pound not less than 2.0 milligrams and not more than 2.5 milligrams of thiamine, not less than 1.2 milligrams and not more than 1.5 milligrams of riboflavin, not less than 16.0 milligrams and not more than 20.0 milligrams of niacin or niacin amide, not less than 13.0 milligrams and not more than 16.5 milligrams of iron (Fe);



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You can tell by the *results* it gives you . . . sure. But there's an easier, quicker way—and it's just as positive. Simply look for this label on the sack.

This Products Control Emblem means that the flour in the sack is the finest of its type that can be milled—*already bake-tested* as further insurance of dependable results for you.

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Ask your General Mills man for the flours best suited to your shop and your products. That's the best way to be sure you get *good* flour EVERY TIME!

General Mills
Minneapolis 1, Minnesota

Grain-Mill Products, General Statistics for the United States

Note: The 1947 Census is the only one taken since 1939. Flour and meal industry comprises establishments primarily engaged in milling flour or meal from grain; prepared animal feed industry comprises establishments primarily engaged in manufacturing prepared feeds for animals and fowls. Cereal preparations industry comprises establishments primarily engaged in manufacturing breakfast foods and other cereal preparations from grain. Blended and prepared flour industry comprises establishments primarily engaged in the preparation of self-rising or blended flour from purchased flour.

Source: U.S. Bureau of the Census

(Money figures in thousands of dollars)

Industry and census year	Number of establishments	All employees: Number (average for the year)	All employees: Salaries & wages, total	Production and related workers: Number (average for the year)	Production and related workers: Wages, total	Value added by manufacture*	Cost of materials, fuel, electricity and contract work†	Value of products shipped‡
Total for grain-mill products—								
1947	4,206	113,217	$311,736	86,063	$216,229	$1,001,692	$4,225,044	$5,236,736
1939	3,746	73,511	99,339	59,682	56,606	325,962	914,502	1,240,464
1937	3,537	¶63,081	¶81,878	51,138	58,173	287,933	1,194,937	1,482,870
1935	3,313	61,045	74,404	48,016	48,011	269,183	1,063,492	1,332,676
1933	2,795	50,176	53,580	40,749	38,749	237,602	632,453	870,055
1931	3,374	***	***	39,810	46,981	264,841	725,064	989,905
1929	4,953	60,450	92,955	45,328	58,218	350,332	1,336,707	1,687,039
1927	4,619	60,862	91,050	45,166	57,226	302,630	1,355,616	1,658,246
Flour and meal—								
1947	1,243	39,458	118,940	30,722	$5,680	410,468	2,101,075	2,511,543
1939§	2,143	35,978	49,375	24,771	24,370	143,882	506,061	649,943
1937	2,238	32,977	44,008	26,390	30,186	133,599	722,711	856,310
1935	2,193	33,805	41,860	26,495	27,105	136,997	716,222	853,219
1933	1,932	28,713	31,374	23,207	22,591	134,332	432,671	567,003
1931	2,412	***	***	22,840	27,298	136,950	461,091	598,041
1929	4,022	35,792	55,667	27,028	35,072	191,396	868,873	1,060,269
1927	4,035	40,128	59,791	29,982	37,559	176,049	972,711	1,148,760
1925**	4,314	42,776	62,693	31,988	39,700	172,636	1,125,379	1,298,015
1923	5,232	48,029	68,035	35,194	41,704	162,605	886,972	1,048,577
1921	6,485	48,137	68,818	35,378	43,143	185,930	993,810	1,179,740
1919	10,708	63,832	82,901	45,481	50,858	263,263	1,799,181	2,062,434
1914	10,788	52,966	40,963	39,718	24,593	125,410	762,270	877,680
1909	11,691	51,484	33,981	39,453	21,464	116,008	767,576	883,584
1904	10,051	46,525	27,176	39,110	19,822	93,062	619,971	713,033
1899	9,476	37,748	21,543	32,226	16,285	73,279	428,117	501,396
Prepared animal feeds—								
1947	2,689	55,347	143,301	40,266	93,579	394,236	1,736,027	2,130,263
1939	1,383	24,177	31,803	15,401	16,253	99,240	302,640	401,880
1937	1,126	19,190	24,486	14,397	15,839	76,706	338,505	415,211
1935	942	15,427	18,349	11,606	11,068	58,040	230,622	288,662
1933	710	11,340	11,496	8,791	7,866	39,273	122,070	161,343
1931	796	***	***	8,449	9,402	47,187	162,734	209,921
1929	750	14,384	22,400	10,223	12,831	74,833	327,920	402,753
1927††	447	11,378	17,475	7,632	9,703	55,117	244,676	299,793
Cereal preparations—								
1947	64	11,276	30,689	9,496	25,160	130,188	154,478	284,666
1939	70	9,033	13,647	7,455	9,857	70,349	58,034	128,383
1937‡‡	71	***	***	7,725	10,419	65,680	85,181	150,861
1935	110	9,204	11,531	7,890	8,526	64,248	82,433	146,681
1933	103	8,135	9,064	7,115	7,270	56,011	55,015	111,026
1931	111	***	***	7,018	9,005	72,156	69,427	141,583
1929	121	8,158	12,231	6,488	8,876	73,751	101,472	175,223
1927	77	7,210	11,032	6,028	8,417	63,815	91,748	155,563
1925	90	***	***	6,168	7,942	57,502	92,577	150,079
1923	92	7,627	10,438	6,410	7,878	48,287	84,458	132,745
1921	82	7,853	12,189	5,749	7,178	43,482	74,559	118,041
1919	105	10,874	14,258	7,634	8,509	41,385	117,838	159,223
1914¶¶	137	7,513	6,694	5,177	3,134	23,218	36,767	59,985
Blended and prepared flour—								
1947	122	3,064	8,807	2,312	5,110	23,368	52,155	75,523
1939	78	1,105	1,419	706	593	3,928	13,966	17,894
1937§§	41	***	***	408	373	3,869	9,725	13,634

***Not available.

*Value of products less cost of materials, supplies, fuel, electricity and contract work.

†Figures for years prior to 1935 do not include cost of contract work.

‡For 1947 and 1929, value of products shipped; for all other years, value of products made.

¶Data for employees other than production workers reported by the "cereal preparations" and "blended and prepared flour" industries are not included in the figures for "all employees" for 1937. The figures do include, however, data for production and related workers reported by these industries.

§The figures for 1939 include data for two establishments making soy flour. Although soy flour is now classified in the "soybean oil mills" industry, the data for these two establishments have been included in the 1939 figures for "flour and meal" to avoid disclosure of their figures.

**The figures for 1899-1925 are not strictly comparable with those for later years because they include data for establishments which make prepared animal feeds from grain ground in the same establishment. Such establishments have been classified in "prepared animal feeds" since 1927.

††The figures for years prior to 1927 are not sufficiently comparable with those for later years to be shown in this table because they do not include data for manufacturers of prepared feeds who grind the grain consumed.

‡‡The figures for 1937-47 exclude data for self-rising flour, whereas the figures for earlier years include data for this product. Value added in 1937, including data for self-rising flour, was $69.6 million.

¶¶Prior to 1914, "cereal preparations" was combined with "food preparations, not elsewhere classified."

§§The figures for 1937 are for self-rising flour only. Blended flour made from purchased flour was not classified as a manufactured product prior to 1937. No comparable figures are available prior to 1937.

Note: As amended July 1, 1943; 8 F.R. 9118. (The above riboflavin requirement, after postponement, 6 F.R. 6175, 7 F.R. 3055, 8 F.R. 3358, became effective Oct. 1, 1943, 8 F.R. 9118.)

(b) Vitamin D may be added in such quantity that each pound of the finished enriched flour contains not less than 250 U. S. P. units and not more than 1,000 U. S. P. units of vitamin D;

(c) Calcium may be added in such quantity that each pound of the finished enriched flour contains not less than 500 milligrams and not more than 625 milligrams of calcium (Ca), except that enriched flour may be acidified with monocalcium phosphate irrespective of the minimum limit for calcium (Ca) herein prescribed;

(d) It may contain not more than 5% by weight of wheat germ or partly defatted wheat germ, and

(e) In determining whether the ash content complies with the requirements of this section allowance is made for ash resulting from any added iron or salts of iron or calcium.

Iron and calcium may be added only in forms which are harmless and assimilable. The substances referred to in paragraphs (a) and (b) of this section may be added in a harmless carrier which does not impair the enriched flour; such carrier is used only in the quantity necessary to effect an intimate and uniform admixture of such substances with the flour.

Sec. 15.20. **Bromated flour; identity; label statement of option ingredients.** Bromated flour conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for flour by Sec. 15.00, except that:

(a) Potassium bromate is added in a quantity not exceeding 50 parts to each million parts of the finished bromated flour; and is added only to flours whose baking qualities are improved by such addition.

Sec. 15.30. **Enriched bromated flour; identity; label statement of optional ingredients.** Enriched bromated flour conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for enriched flour by Section 15.10, except that potassium bromate is added in a quantity not exceeding 50 parts to each million parts of the finished enriched bromated flour; and is added only to enriched flours whose baking qualities are improved by such addition. Note: Sec. 15.20 and 15.30 shall become effective Oct. 21, 1948 (13 F. R. 4222).

Sec. 15.40. **Durum flour; identity.** (a) Durum flour is the food prepared by grinding and bolting cleaned durum wheat. One of the cloths through which such flour is

Quantity and Value of Grain-Mill Products Industries, 1947 and 1939

Note: Total production and value of products for flour milling industry, blended and prepared flour, cereal preparations and prepared animal feeds for 1947 and 1939. **Source: Bureau of the Census**

(All figures in thousands)

Product and unit of measure	1947 — Total shipments and interplant transfers		1939 — Production for sale	
	Quantity	Value f.o.b. plant	Quantity	Value f.o.b. plant
Wheat flour, plain, total*, 100-lb. sack	271,404	$1,508,178	198,906	$410,784
White, 100-lb. sack	254,318	1,501,146	187,967	388,481
Whole wheat, 100-lb. sack	4,714	26,614	4,287	8,880
Semolina, 100-lb. sack	9,164	50,928	6,652	13,423
Other, including farina, 100-lb. sack	3,208	19,490	†	†
Blended and prepared flour, total, 100-lb. sack	47,374	365,187	25,845	75,596
Plain blended, 100-lb. sack	2,326	13,838	1,426	3,221
Phosphated, 100-lb. sack	19,679	120,922	7,270	15,943
Self-rising, 100-lb. sack	14,994	101,608	13,283	32,080
Other prepared flour (pancake, etc.), 100-lb. sack	10,375	128,819	3,867	24,352
Blended and prepared flour, made in flour mills, 100-lb. sack	40,096	273,576	19,399	47,608
Plain blended, 100-lb. sack	1,869	10,718	790	1,657
Phosphated, 100-lb. sack	19,031	115,734	6,628	14,351
Self-rising, 100-lb. sack	‡12,955	‡83,868	10,574	24,895
Other prepared flour (pancake, etc.), 100-lb. sack	6,241	63,256	1,407	6,705
Blended and prepared flour, not made in flour mills§, 100-lb. sack	7,278	91,611	6,446	27,988
Plain blended, 100-lb. sack	457	3,120	636	1,564
Phosphated, 100-lb. sack	648	5,188	642	1,592
Self-rising, 100-lb. sack	2,039	17,740	2,709	7,185
Other prepared flour (pancake, etc.), 100-lb. sack	4,134	65,563	2,460	17,647
Wheat bran, shorts and middlings, ton	5,824	319,412	4,391	89,813
Corn meal, total, 100-lb. sack	11,838	65,694	14,147	22,596
Whole, 100-lb. sack	5,997	33,628	•••	•••
Degermed, 100-lb. sack	5,841	32,066	•••	•••
Other grain-mill products, not elsewhere classified, total	....	131,417	....	•••
Rye flour, 100-lb. sack	2,109	13,538	2,844	4,092
Rye millfeed, ton	23	1,121	•••	•••
Corn grits and hominy for human consumption, 100-lb. sack	4,841	24,929	2,275	3,520
Corn grits and flakes for brewers' use, 100-lb. sack	6,911	37,509	4,035	5,410
Hominy feed and other corn milling by-products, ton	549	37,257	•••	•••
Oat millfeed and other oat milling by-products, ton	237	11,346	•••	•••
Other grain-mill products§	....	5,717	....	1,623
Grain-mill products, not specified by kind	....	31,605	....	4,454
Poultry and livestock feeds, total, ton	22,208	1,981,594	•••	•••
Grain (ground, rolled, chopped or crimped), ton	1,584			
Poultry feeds—				
All scratch feeds, ton	1,755			
Chicken mash and pellets, under 25% protein—				
Layer and breeder, ton	4,318			
Starter, ton	960			
Grower, ton	1,173			
Broiler, ton	1,522			
Turkey mash and pellets, under 25% protein, ton	547			
Other poultry feeds, under 25% protein, ton	612			
Supplements and concentrates, 25% protein and over, ton	832	....	•••	....
Livestock feeds—				
Dairy, under 25% protein, ton	4,664			
Dairy, 25% protein and over, ton	608			
Beef and range cattle, ton	436			
Sheep and goat, ton	71			
Pig and hog, under 25% protein, ton	771			
Pig and hog, 25% protein and over, ton	707			
Horse and mule, ton	534			
Other livestock feeds**, ton	757			
Poultry and livestock feeds, kind not specified, ton	447			
Dog and cat food, total, lb.	1,107,849	96,359	732,095	33,467
Canned, lb.	427,137	38,389	501,378	22,943
Biscuits, pellets and meal, lb.	680,712	57,970	230,717	10,519
Miscellaneous feeds, total	....	86,542	....	•••
Mineral mixtures, lb.	399,799	18,257	615,484	7,750
Alfalfa meal, total, ton	....	....	419,126	8,083
Suncured, ton	397	15,944	•••	•••
Dehydrated, ton	723	34,311	•••	•••
Other prepared feeds, not elsewhere classified††	....	18,030	•••	•••
Prepared feeds, kind not specified	....	‡‡50,549	....	....
Cereal preparations, total	....	221,758	....	106,458
Ready to serve, total, lb.	713,147	148,134	576,493	67,065
Corn, lb.	207,360	35,130	•••	•••
Wheat, lb.	306,632	60,059	299,539	37,665
Other grains and mixed grains, lb.	199,155	52,945	•••	•••
To be cooked before serving, total, lb.	773,054	69,693	712,123	36,407
Corn, lb.	2,809	320	•••	•••
Oats, lb.	504,657	42,919	•••	•••
Wheat, lb.	165,093	19,818	153,453	10,463
Other grains and mixed grains, lb.	100,495	6,636	•••	•••
Cereal coffee substitute	•••	3,772	•••	•••
Cereal preparations, kind not specified	....	159	•••	•••

•••Not available.

*Total production, including the quantity produced and used in the same mills in the manufacture of blended and prepared flours amounted to 305.5 million sacks in 1947.

†Included with white flour.

‡Includes a small quantity of prepared flour, kind not specified.

§Includes production in cereal plants, largely from purchased flour.

§Includes buckwheat and corn flour.

**Includes feed for rabbits, mink, foxes, laboratory animals, etc.

††Includes crushed oyster shells, egg shells, dried citrus pulp and miscellaneous prepared materials used as feeds or feed adjuncts.

‡‡Includes total sales ($29,673,000) of 468 establishments classified in the "prepared animal feeds" industry, for which no detailed breakdown of sales was tabulated.

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bolted has openings not larger than those of woven-wire cloth designated "149 micron (No. 100)" in Table I of "Standard Specifications for Sieves," published March 1, 1940, in L. C. 584 of the U.S. Department of Commerce, National Bureau of Standards. It is freed from bran coat, or bran coat and germ, to such extent that the per cent of ash therein, calculated to a moisture-free basis, is not more than 1.5%. Its moisture content is not more than 15%.

(b) For the purposes of this section, ash and moisture are determined by the methods therefor referred to in Section 15.00 (c).

Sec. 15.50. Self-rising flour, self-rising white flour, self-rising wheat flour; identity; label statement of optional ingredients. (a) Self-rising flour, self-rising white flour, self-rising wheat flour, is an intimate mixture of flour, sodium bicarbonate, and the acid-reacting substance monocalcium phosphate or sodium acid pyrophosphate or both. It is seasoned with salt. When it is tested by the method prescribed in paragraph (c), not less than 0.5% of carbon dioxide is evolved. The acid-reacting substance is added in sufficient quantity to neutralize the sodium bicarbonate. The combined weight of such acid-reacting substance and sodium bicarbonate is not more than 4.5 parts to each 100 parts of flour used. Subject to the conditions and restrictions prescribed by Section 15.00 (a), the bleaching ingredients specified in such section may be added as optional ingredients. If the flour used in making the self-rising flour is bleached, the optional bleaching ingredient used therein (see Section 15.00 (a)) is also an optional ingredient of the self-rising flour.

(b) When any optional bleaching ingredient is used, the label shall bear the word "Bleached." Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the word "Bleached" shall immediately and con-

spicuously precede or follow such name, without intervening written, printed, or graphic matter; except that where such name is a part of a trade-mark or brand, other written, printed, or graphic matter, which is also a part of such trade-mark or brand, may so intervene if the word "Bleached" is in such juxtaposition with such trade-mark or brand as to be conspicuously related to such name.

(c) The method referred to in paragraph (a) of this section is the method prescribed in "Official and Tentative Methods of Analysis of the Association of Official Agricultural Chemists," 5th edition, 1940, beginning on page 186 [Ed. note: 6th Edition, p. 208] under "Gasometric Method with Chittick's Apparatus—Official," except that the following procedure is substituted for the procedure specified therein under "6—Determination":

Weigh 17 grams of the official sample into flask A, add 15-20 glass beads (4-6 mm. diameter), and connect this flask with the apparatus (Figure 23). Open stopcock C and by means of the leveling bulb B bring the displacement solution to the 25 cc. graduation above the zero mark. (This 25 cc. is a partial allowance for the volume of acid to be used in the decomposition.) Allow the apparatus to stand 1-2 minutes to insure that the temperature and pressure within the apparatus are the same as those of the room. Close the stopcock, lower the leveling bulb somewhat to reduce the pressure within the apparatus, and slowly run into the decomposition flask from burette F 45 cc. of sulfuric acid (1+5). To prevent the liberated carbon dioxide from escaping through the acid burette into the air, keep the displacement solution in the leveling bulb at all times during the decomposition at a lower level than that in the gas-measuring tube. Rotate and then vigorously agitate the decomposition flask for three minutes to mix the contents intimately. Allow to stand for 10 minutes to bring to equilibrium. Equalize the pressure in the measuring tube by means of the leveling bulb and read the volume of gas from the zero point on the tube. Deduct 20 cc. from this reading (this 20 cc. together with previous allowance of 25 cc. compensates for the 45 cc. acid used in the decomposition). Observe the temperature of the air surrounding the apparatus and also the barometric pressure and multiply the number of cc. of gas evolved by the factor given in Table 24—Chapter XLIII [Ed. note: 6th Edition, 1945, 4430] for the temperature and pressure observed. Divide the corrected reading by 100 to obtain the apparent per cent by weight of carbon dioxide in the official sample.

Correct the apparent per cent of carbon dioxide to compensate for varying atmospheric conditions by immediately assaying a synthetic sample by the same method in the same apparatus.

Prepare the synthetic sample with 16.2 grams of flour, 0.30 gram of monocalcium phosphate, 0.30 gram of salt, and a sufficient quantity of sodium bicarbonate U. S. P. (dried over sulfuric acid) to yield the amount of carbon dioxide recovered in assay of official sample. Determine this quantity by multiplying weight of carbon dioxide recovered in assay of official sample by 1.91.

Divide the weight of carbon dioxide recovered from synthetic sample by weight of carbon dioxide contained in sodium bicarbonate used.

Divide the quotient into the apparent per cent of carbon dioxide in official sample to obtain per cent of carbon dioxide evolved from the official sample.

Sec. 15.60. **Enriched self-rising flour; identity; label statement of optional ingredients.** Enriched self-rising flour conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for self-rising flour by Section 15.50, except that:

(a) It contains in each pound not less than 2.0 milligrams and not more than 2.5 milligrams of thiamine, not less than 1.2 milligrams and not more than 1.5 milligrams of riboflavin, not less than 16.0 milligrams and not more than 20.0 milligrams of niacin or niacin amide, not less than 13.0 milligrams and not more than 16.5 milligrams of iron (Fe), not less than 500 milligrams and not more than 1,500 milligrams of calcium (Ca);

(b) Vitamin D may be added in such quantity that each pound of the finished enriched self-rising flour contains not less than 250 U. S. P. units and not more than 1,000 U. S. P. units of vitamin D;

(c) It may contain not more than 5% by weight of wheat germ or partly defatted wheat germ;

(d) When calcium is added as dicalcium phosphate, such dicalcium phosphate is also considered to be an acid-reacting substance; and

(e) When calcium is added as carbonate, the method set forth in Section 15.50 (c) does not apply as a test for carbon dioxide evolved; but in such case the quantity of carbon dioxide evolved under ordinary conditions of use of the enriched self-rising flour is not less than 0.5% of the weight thereof.

Iron and calcium may be added only in forms which are harmless and assimilable. The substances referred to in paragraphs (a) and (b) of this section may be added in a harmless carrier which does not impair the enriched self-rising flour; such carrier is used only in the quantity necessary to effect an intimate and uniform admixture of such substances with the flour.

Sec. 15.70. **Phosphated flour, phosphated white flour, phosphated wheat flour; identity; label statement of optional ingredients.** Phosphated flour, phosphated white flour, phosphated wheat flour, conforms to the definition and standard of identity, and is subject to the requirements for label declaration of optional ingredients, prescribed for flour by Section 15.00, except that:

(a) Monocalcium phosphate is added in a quantity not less than 0.25% and not more than 0.75% of the weight of the finished phosphated flour; and

(b) In determining whether the ash content complies with the requirements of this section allowance is made for the added monocalcium phosphate.

Sec. 15.80. **Whole wheat flour, graham flour, entire wheat flour; identity; label statement of optional ingredients.** (a) Whole wheat flour, graham flour, entire wheat flour, is the food prepared by so grinding cleaned wheat other than durum wheat and red durum wheat that, when tested by the method prescribed in paragraph (c) (2) of this section, not less than 90% passes through a No. 8 sieve and not less than 50% passes through a No. 20 sieve. The proportions of the natural constituents of such wheat, other than moisture, remain unaltered. To compensate for any natural deficiency of enzymes, malted wheat, malted wheat flour, malted barley flour, or any combination of two or more of these, may be used; but the quantity of malted wheat flour so used is not more than 0.5%, and the quantity of malted barley flour so used is not more than 0.25%. The moisture content of whole wheat flour is not more than 15%. Unless such addition conceals damage or inferiority of the whole wheat flour or makes it appear better or of greater value than it is, the optional bleaching ingredient chlorine dioxide, chlorine, or a mixture of nitrosyl chloride and chlorine, may be added in a quantity not more than sufficient for bleaching and artificial aging effects.

(b) When any optional bleaching ingredient is used, the label shall bear the word 'Bleached." Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the word "Bleached" shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter; except that where such name is a part of a trade-mark or brand, other written, printed, or graphic matter, which is also a part of such trade-mark or brand, may so intervene if the word "Bleached" is in such juxtaposition with such trade-mark or brand as to be conspicuously related to such name.

(c) For the purpose of this section:

(1) Moisture is determined by the method prescribed in "Official and Tentative Methods of Analysis of the Association of Official Agricultural Chemists," 5th edition, 1940, page 211, under "Vacuum Oven Method—Official." (Ed. note: 6th Edition, 1945, p. 237.)

(2) The method referred to in paragraph (a) of this section is as follows: Use No. 8 and No. 20 sieves, having standard 8-inch full height frames, complying with the specifications for wire cloth and sieve frames in "Standard Specifications for Sieves," published March 1, 1940, in L. C. 584 of the U. S. Department of Commerce, National Bureau of Standards. Fit a No. 8 sieve into a No. 20 sieve. Attach bottom pan to the No. 20 sieve. Pour 100 grams of the sample into the No. 8 sieve. Attach cover and hold the assembly in a slightly inclined position with one hand. Shake the sieves by striking the sides against the other hand with an upward stroke, at the rate of about 150 times per minute. Turn the sieves about one sixth of a revolution, each time in the same direction, after each 25 strokes. Continue shaking for two minutes. Weigh the material which fails to pass through the No. 8 sieve and the material which passes through the No. 20 sieve.

Sec. 15.90. **Bromated whole wheat flour; identity; label statement of optional ingredients.** Bromated whole wheat flour conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for whole wheat flour by Section 15.80, except that potassium bromate is added in a quantity not exceeding 75 parts to each million parts of finished bromated whole wheat flour.

Sec. 15.100. **Whole durum wheat flour; identity; label statement of optional ingredients.** Whole durum wheat flour conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for whole wheat flour by Section 15.80, except that cleaned durum wheat, instead of cleaned wheat other than durum wheat and red durum wheat, is used in its preparation.

Sec. 15.110. **Crushed wheat, coarse ground wheat; identity.** Crushed wheat, coarse ground wheat, is the food prepared by so crushing cleaned wheat other than durum wheat and red durum wheat that, when tested by the method prescribed in Section 15.80 (c) (2), 40% or more passes through a No. 8 sieve and less than 50% passes through a No. 20 sieve. The proportions of the natural constituents of such wheat, other than moisture, remain unaltered. Crushed wheat contains not more than 15% of moisture as determined by the method prescribed in "Official and Tentative Methods of Analysis of the Association of Official Agricultural Chemists," 5th edition, 1940, page 353 [Ed. note: 6th Edition, 1945, p. 404], under "Preparation of Sample—Official" and "Moisture I. Drying with Heat—Official."

Sec. 15.120. **Cracked wheat; identity.** Cracked wheat is the food prepared by so cracking or cutting into angular fragments cleaned wheat other than durum wheat and red durum wheat that, when tested by the method prescribed in Section 15.80 (c) (2), not less than 90% passes through a No. 8 sieve and not more than 20% passes through a No. 20 sieve. The proportions of the natural constituents of such wheat, other than moisture, remain unaltered. Cracked wheat contains not more than 15% of moisture as

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U.S. Grain-Mill Products Industries, Detailed Statistics, 1947

Note: Detailed statistics for flour milling, blended and prepared flour, cereal preparations and prepared animal feeds for 1947. **Source; U.S. Bureau of the Census**

(Money figures in thousands of dollars)

Item	Industry: Flour and meal	Prepared animal feeds	Cereal preparations	Blended and prepared flour
All establishments—				
Number of establishments	1,243	2,689	64	122
All employees:				
Number (aver. for the year)	39,458	55,347	11,276	3,064
Salaries and wages, total	$118,940	$143,301	$30,889	$8,807
Production & related workers:				
Number (aver. for the year)	30,722	40,266	9,496	2,312
Man-hours, total, thousands	74,412	92,751	19,540	4,557
Wages, total	$85,680	$93,579	$25,160	$5,110
Value added by manufacture	$410,468	$394,236	$130,188	$23,368
Establishments reporting detailed statistics—				
Number of establishments	888	2,221	64	122
All employees:				
Number (aver. for the year)	38,508	53,453	11,276	3,044
Salaries and wages, total	$117,442	$139,464	$30,889	$8,807
Production & related workers:				
Number (aver. for the year)	29,781	38,428	9,496	2,312
Man-hours, total, thousands	72,539	89,085	19,540	4,557
Wages, total	$84,204	$89,824	$25,160	$5,110
Value added by manufacture	$406,833	$387,075	$130,188	$23,368
Number of employees for pay period ended nearest Oct. 15:				
All employees	39,651	54,124	11,466	3,320
Male	36,316	49,406	7,429	2,135
Female	3,335	4,719	4,037	1,185
Production & related workers	30,700	38,658	9,631	2,483
Male	29,350	37,463	6,304	1,559
Female	1,350	1,195	3,327	924
Force-account construction workers	229	493	3	....
Administrative, supervisory, sales, and all other	8,722	14,973	1,832	837
Male	6,737	11,451	1,122	576
Female	1,985	3,522	710	261
All employees, number by month:				
January	37,882	50,966	11,421	3,378
February	37,720	50,806	11,198	3,120
March	37,833	51,860	11,099	3,082
April	37,706	51,356	11,555	2,848
May	37,186	53,211	10,791	2,754
June	37,697	55,754	10,833	2,794
July	38,900	56,527	11,164	2,813
August	39,556	55,894	11,954	2,813
September	38,521	55,168	12,158	3,035
October	39,651	54,124	11,466	3,320
November	39,573	52,862	11,230	3,391
December	39,259	52,118	10,451	3,392
Cost of materials, fuel, electricity and contract work	$2,085,015	$1,713,515	$154,478	$52,155
Materials, parts, containers and supplies	2,073,074	1,700,210	151,798	51,823

Item	Industry: Flour and meal	Prepared animal feeds	Cereal preparations	Blended and prepared flour
Establishments reporting detailed statistics— Continued—				
Fuels, total	$2,911	$4,658	$1,479	$126
Bituminous coal	1,143	784	854	22
Anthracite	70	145	106	1
Coke	8	24	5	....
Fuel oils	1,005	1,877	152	86
Gas	492	1,178	267	16
Other fuels	193	650	95	1
Purchased electric energy	8,911	7,052	1,199	151
Contract and commission work	119	1,595	2	55
Value of inventories:				
Beginning of year, total	$278,916	$181,924	$28,457	$11,144
Finished products	37,251	44,694	5,929	2,141
Materials, supplies and work in process	241,665	137,230	21,528	9,003
End of year, total	371,493	209,084	32,413	11,732
Finished products	47,891	55,409	6,890	2,566
Materials, supplies and work in process	323,602	153,675	25,523	9,166
Expenditures for plant and equipment:				
New plant and equipment	$27,784	$34,791	$3,842	$1,856
Construction and major alterations of fixed plants	12,601	14,704	909	727
Buildings	12,104	13,527	609	637
Other construction	497	1,177	300	90
Machinery and equipment	15,183	20,087	2,933	1,129
Production machinery and equipment	13,013	14,788	2,732	888
Other machinery and equipment	2,170	5,299	201	241
Used plant and equipment and land	960	1,838	31	32
Number of highway-type motor vehicles owned or leased:				
Trucks	1,887	5,093	105	141
By manufacturer's rated capacity:				
Under 1½ tons	422	1,363	37	37
1½ tons	807	2,955	43	41
Over 1½ tons and less than 3½ tons	436	1,283	20	39
3½ tons and less than 5 tons	89	171	4	10
5 tons and over	133	331	1	14
By body type:				
Van	421	668	6	63
Stake or platform	770	3,214	47	27
Panel or light delivery	365	884	37	42
All other trucks	330	1,237	15	9
Truck tractors	460	832	7	6
Trailers and semitrailers	502	1,026	7	5

determined by the method prescribed in "Official and Tentative Methods of Analysis of the Association of Official Agricultural Chemists," 5th edition, 1940, page 353 [Ed. note: 6th Edition, 1945, p. 404], under "Preparation of Sample — Official" and "Moisture I. Drying with Heat—Official."

Sec. 15.130. **Farina; identity.** (a) Farina is the food prepared by grinding and bolting cleaned wheat, other than durum wheat and red durum wheat, to such fineness that, when tested by the method prescribed in paragraph (b) (2) of this section, it passes through a No. 20 sieve, but not more than 3% passes through a No. 100 sieve. It is freed from bran coat, or bran coat and germ, to such extent that the per cent of ash therein, calculated to a moisture-free basis, is not more than 0.6%. Its moisture content is not more than 15%.

(b) For the purposes of this section:

(1) Ash and moisture are determined by the methods therefor referred to in Section 15.00 (c).

(2) The method referred to in paragraph (a) of this section is as follows: Use No. 20 and No. 100 sieves, having standard 8-inch full-height frames, complying with the specifications for wire cloth and sieve frames in "Standard Specifications for Sieves" published March 1, 1940, in L. C. 584 of the U.S. Department of Commerce, National Bureau of Standards. Fit a No. 20 sieve into a No. 100 sieve. Attach bottom pan to the No. 100 sieve. Pour 100 grams of the sample into the No. 20 sieve. Attach cover and hold the assembly in a slightly inclined position with one hand. Shake the sieves by striking the sides against the other hand with an upward stroke, at the rate of about 150 times per minute. Turn the sieves about one sixth of a revolution, each time in the same direction, after each 25 strokes. Continue shaking for two minutes. Weigh the material which fails to pass through the No. 20 sieve and the material which passes through the No. 100 sieve.

Sec. 15.140. **Enriched farina; identity; label statement of optional ingredients.** (a) Enriched farina conforms to the definition and standard of identity prescribed for farina by Section 15.130, except that:

(1) It contains in each pound not less than 1.66 milligrams of vitamin B_1, not less than 1.2 milligrams of riboflavin, not less than 6 milligrams of niacin or niacin amide, and not less than 6 milligrams of iron (Fe);

Note: The effective date of the requirement that each pound of enriched farina contain not less than 1.2 milligrams of riboflavin was postponed until further announcement, 8 F.R. 3358, 9115.

(2) Vitamin D may be added in such quantity that each pound of the finished enriched farina contains not less than 250 U. S. P. units of the optional ingredient vitamin D;

(3) Calcium may be added in such quantity that each pound of the finished enriched farina contains not less than 500 milligrams of the optional ingredient calcium (Ca.).

(4) It may contain not more than 3% by weight of the optional ingredient wheat germ or partly defatted wheat germ.

(5) It may contain not less than 0.5% and not more than 1% by weight of the optional ingredient disodium phosphate.

(6) In determining whether the ash content complies with the requirements of this section allowance is made for ash resulting from any added iron or salts of iron or calcium, or from any added disodium phosphate, or from any added wheat germ.

Iron and calcium may be added only in forms which are harmless and assimilable. Dried irradiated yeast may be used as a source of vitamin D. The substances referred to in subparagraphs (1) and (2) of this paragraph may be added in a harmless carrier which does not impair the enriched farina; such carrier is used only in the quantity necessary to effect an intimate and uniform admixture of such substances with the farina.

(b) When the optional ingredient disodium phosphate is used, the label shall bear the statement "Disodium phosphate added for quick cooking." Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, such statement shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter; except that where such name is a part of a trade-mark or brand, other written, printed, or graphic matter, which is also a part of such trade-mark or brand, may so intervene if such statement is in such juxtaposition with such trade-mark or brand as to be conspicuously related to such name.

Sec. 15.150. **Semolina; identity.** (a) Semolina is the food prepared by grinding and bolting cleaned durum wheat to such fineness that, when tested by the method prescribed in Section 15.130 (b) (2), it passes through a No. 20 sieve, but not more than 3% passes through a No. 100 sieve. It is freed from bran coat, or bran coat and germ, to such extent that the per cent of ash therein, calculated to a moisture-free basis, is not more than 0.92%. Its moisture content is not more than 15%.

Range of Flour Prices at Principal Centers in U.S.

Note: High and low flour prices by months, basis carload lots, prompt delivery, per sack of 100 lb. **Source: The Northwestern Miller**

	Chicago Spring		Minneapolis Spring		Kansas City Hard winter	
1954—	Top Pat.	1st Clear	Std. Pat.	1st Clear	Std. Pat.	1st Clear
January	$6.65@6.75	$...@6.15	$6.34@6.39	$5.66@6.11	$5.91@5.96	$4.55@5.15
February	6.50@6.70	6.00@6.35	6.26@6.33	5.75@6.25	5.84@5.90	4.45@5.20
March	6.40@6.56	5.90@6.20	6.21@6.29	5.86@6.24	5.92@5.99	4.50@5.05
April	6.34@6.70	6.15@6.25	6.16@6.29	5.91@6.30	5.94@6.00	4.75@5.05
May	6.75@6.90	6.10@6.30	6.40@6.50	5.70@6.35	5.83@5.90	4.30@4.75
June	6.55@6.90	5.80@6.20	6.46@6.58	5.76@6.06	6.05@6.14	4.55@4.90
July	7.15@7.20	6.30@6.45	6.76@6.82	5.96@6.56	6.22@6.27	4.50@5.00
August	6.50@6.80	5.85@6.40	6.31@6.41	6.06@6.41	5.97@6.03	4.65@5.35
September	6.95@7.10	6.35@6.50	6.66@6.69	6.10@6.51	6.10@6.15	4.95@5.20
October	6.73@7.10	5.10@6.50	6.66@6.71	6.06@6.51	6.25@6.30	4.85@4.90
November	6.75@7.25	6.10@6.45	6.76@6.89	5.96@6.41	6.15@6.20	4.90@5.25
December	6.95@7.30	6.30@6.60	6.68@6.73	5.93@6.23	6.15@6.20	5.00@5.10

	Chicago Spring		Minneapolis Spring		Kansas City Hard winter	
1953—	Top Pat.	1st Clear	Std. Pat.	1st Clear	Std. Pat.	1st Clear
January	$5.80@6.95	$5.30@5.55	$5.71@5.77	$5.31@5.59	$5.35@5.45	$4.40@4.60
February	6.05@6.13	5.30@5.55	5.78@5.84	5.20@5.59	5.40@5.45	4.35@4.40
March	6.00@6.25	5.25@5.60	5.84@5.89	5.20@5.45	5.50@5.55	4.35@4.65
April	5.95@6.20	5.25@5.50	5.85@5.90	5.15@5.48	5.45@5.50	4.20@4.35
May	6.00@6.20	5.35@5.50	5.85@5.90	5.15@5.55	5.55@5.60	4.25@4.40
June	6.19@6.30	5.30@5.50	5.80@5.81	5.15@5.51	5.20@5.25	4.60@4.70
July	5.80@5.95	5.50@5.75	5.52@5.62	5.25@5.50	5.25@5.30	4.20@4.40
August	6.00@6.35	5.40@5.80	6.02@6.12	5.50@5.86	5.50@5.55	4.10@4.50
September	6.25@6.38	5.59@5.75	6.10@6.17	5.35@6.08	5.55@5.60	3.45@4.15
October	6.54@6.70	5.75@5.95	6.20@6.30	5.45@5.90	5.83@5.90	3.95@4.20
November	6.75@6.78	5.85@6.00	6.44@6.46	5.61@5.96	6.00@6.07	4.05@4.50
December	6.42@6.65	5.70@6.00	6.11@6.18	5.71@5.81	5.86@5.97	4.50@4.85

	Chicago Spring		Minneapolis Spring		Kansas City Hard winter	
1952—	Top Pat.	1st Clear	Std. Pat.	1st Clear	Std. Pat.	1st Clear
January	$5.85@6.15	$5.35@5.90	$5.75@5.87	$5.30@5.85	$5.45@5.78	$4.35@5.15
February	5.80@6.10	5.30@5.70	5.45@5.80	5.10@5.82	5.40@5.60	3.85@4.50
March	5.75@6.00	5.35@5.80	5.59@5.70	5.05@5.85	5.40@5.60	4.05@4.70
April	5.61@5.89	5.30@5.80	5.42@5.64	5.30@5.72	5.35@5.60	3.85@4.82
May	5.60@5.89	5.30@5.60	5.45@5.53	5.10@5.75	5.30@5.45	3.90@4.50
June	5.50@5.95	5.30@5.75	5.46@5.63	5.25@5.57	5.10@5.40	3.85@4.55
July	5.70@5.97	5.45@5.75	5.48@5.65	5.05@5.60	5.10@5.20	4.00@4.60
August	5.50@5.80	5.05@5.65	5.28@5.51	4.95@5.60	5.10@5.20	4.00@4.45
September	5.45@5.84	5.30@5.60	5.25@5.60	4.95@5.60	5.15@5.45	4.10@4.75
October	5.70@6.07	5.35@5.60	5.51@5.74	5.21@5.69	5.35@5.50	4.30@4.55
November	5.85@6.10	5.35@5.70	5.70@5.82	5.10@5.59	5.45@5.65	4.30@4.50
December	5.85@6.06	5.30@5.60	5.57@5.75	5.10@5.60	5.35@5.55	4.40@4.75

	St. Louis Soft winter		Buffalo Spring		Seattle	
1954—	Short Pat.	1st Clear	Std. Pat.	1st Clear	Fam. Pat.	Bakery
January	$...@...	$...@4.95	$6.99@7.11	$6.35@6.43	$...@7.90	$...@7.06
February	...@...	...@5.05	6.93@7.04	6.66@6.85	...@7.90	...@7.03
March	...@...	...@5.20	6.89@6.97	6.61@6.82	...@...	...@...
April	...@...	...@5.15	6.89@7.00	6.61@6.67	...@8.00	...@7.18
May	...@...	...@4.70	7.11@7.25	6.66@6.67	...@8.00	...@7.21
June	...@...	...@4.70	7.18@7.28	6.66@6.67	...@8.00	...@7.25
July	...@...	...@4.85	...@7.47	6.76@6.87	...@8.00	...@7.21
August	...@...	...@5.25	7.04@7.18	6.68@6.96	...@8.00	...@7.38
September	...@...	...@5.45	7.34@7.44	6.88@6.96	...@8.00	...@7.37
October	...@...	...@5.00	7.34@7.41	6.58@6.76	...@8.00	...@7.30
November	...@...	...@5.20	7.49@7.59	6.63@6.76	...@8.10	...@7.50
December	...@...	...@5.30	7.43@7.52	6.68@6.71	...@8.10	...@7.59

	St. Louis Soft winter		Buffalo Spring		Seattle	
1953—	Short Pat.	1st Clear	Std. Pat.	1st Clear	Fam. Pat.	Bakery
January	$...@6.15	$...@4.75	$6.11@6.17	$5.71@5.99	$...@7.55	$...@6.55
February	...@6.30	...@4.90	6.44@6.46	5.94@5.96	...@7.70	...@6.53
March	...@6.25	...@4.85	6.55@6.57	5.89@5.91	...@...	...@...
April	...@6.15	...@4.75	6.57@6.59	5.84@5.86	...@7.40	...@6.71
May	...@6.00	...@4.70	6.50@6.52	5.84@5.86	...@7.40	...@6.71
June	...@5.90	...@4.75	6.59@6.61	5.84@5.86	...@7.55	...@6.61
July	...@5.40	...@4.35	6.24@6.26	5.94@5.96	...@...	...@...
August	...@5.50	...@4.45	6.65@6.67	6.14@6.16	...@7.50	...@6.63
September	...@5.40	...@4.40	6.77@6.80	6.14@6.16	...@...	...@...
October	...@5.60	...@4.40	6.98@7.00	6.14@6.16	...@7.75	...@7.02
November	...@...	...@4.55	...@...	...@...	...@7.90	...@7.23
December	...@...	...@4.60	6.98@7.00	6.38@6.41	...@7.90	...@7.06

	St. Louis Soft winter		Buffalo Spring		Seattle	
1952—	Short Pat.	1st Clear	Std. Pat.	1st Clear	Fam. Pat.	Bakery
January	$7.08@7.49	$...@5.10	$6.38@6.48	$6.10@6.17	$...@7.70	$...@6.67
February	...@6.70	...@5.15	6.09@6.42	6.10@6.12	...@7.92	...@6.67
March	...@6.70	...@5.15	6.23@6.28	6.04@6.15	...@7.92	...@6.67
April	...@6.55	...@4.85	5.80@6.25	5.70@6.10	...@7.70	...@6.49
May	...@6.55	...@4.85	6.00@6.17	6.00@6.10	...@7.70	...@6.48
June	...@6.50	...@4.80	6.12@6.31	6.00@6.10	...@7.55	...@6.59
July	...@6.10	...@4.30	6.22@6.26	6.02@6.10	...@7.55	...@6.47
August	...@5.90	...@4.30	6.06@6.20	6.03@6.06	...@7.50	...@6.32
September	...@6.00	...@4.55	6.03@6.20	6.04@6.06	...@7.50	...@6.35
October	...@6.05	...@4.65	6.22@6.44	6.04@6.06	...@7.50	...@6.42
November	...@6.10	...@4.70	6.42@6.45	5.94@5.96	...@7.50	...@6.61
December	...@6.15	...@4.75	6.05@6.45	5.60@6.00	...@7.55	...@6.62

Canadian Lake Shipments of Grain

Note: In bushels, 000's omitted. **Source: Dominion Bureau of Statistics**

	Wheat	Oats	Barley	Rye	Flaxseed	Total
1954	140,705	58,473	80,672	8,480	4,372	292,702
1953	208,922	98,173	110,501	17,677	6,283	441,557
1952	246,093	92,704	98,863	9,089	6,058	450,808
1951	201,424	58,325	48,332	7,014	2,194	317,288
1950	137,048	27,358	26,762	7,219	3,502	201,889
1949	164,195	44,074	35,634	12,583	8,490	264,976
1948	133,422	37,610	33,564	6,808	8,353	219,757
1947	167,334	46,860	29,827	9,909	2,465	256,395

U.S. Grain Stocks on Farms

Note: Stocks on first of month specified, in bushels, 000's omitted.

Source: USDA

Wheat—	Jan.	April	July	Oct.
1955.	315,689	.....	.....	.....
1954.	401,110	297,873	102,997	436,769
1953.	399,412	268,440	72,840	563,569
1952.	339,336	197,895	63,079	510,819
1951.	335,670	217,261	72,738	480,862
1950.	326,942	199,169	64,660	471,216
1949.	391,379	246,024	67,172	472,209
1948.	428,600	256,986	94,511	546,151
1947.	365,794	139,851	40,477	610,300
1946.	361,031	198,481	41,606	551,669
1945.	390,990	238,386	89,405	517,823
1944.	382,726	219,679	103,742	532,270
1943.	494,662	325,387	188,675	523,816
1942.	372,809	269,145	163,700	644,146
1941.	280,840	193,244	87,366	488,311
Corn—				
1955.	2,070,187	.....	.....	.....
1954.	2,144,305	1,468,770	986,080	357,950
1953.	2,173,205	1,466,434	995,279	329,625
1952.	1,919,269	1,052,666	599,740	171,375
1951.	2,160,548	1,353,106	814,923	317,693
1950.	2,405,778	1,634,182	1,058,468	485,372
1949.	2,547,912	1,797,522	1,255,166	708,443
1948.	1,506,283	842,608	423,006	114,035
1947.	2,136,640	1,276,329	677,375	254,210
1946.	1,858,960	1,032,856	496,928	153,003
1945.	2,123,101	1,325,152	738,591	303,138
1944.	1,968,522	1,093,080	561,181	206,621
1943.	2,277,332	1,374,748	799,235	359,313
1942.	2,016,404	1,289,588	761,363	423,788
1941.	1,837,512	1,199,139	754,464	474,622
Oats—				
1955.	922,637	.....	.....	.....
1954.	773,516	450,335	204,050	1,191,309
1953.	791,661	456,956	220,067	984,324
1952.	841,889	519,236	245,772	1,906,932
1951.	907,660	559,676	264,557	1,142,888
1950.	824,510	481,216	190,855	1,180,466
1949.	928,377	578,832	270,501	1,053,296
1948.	733,303	405,082	169,707	1,187,541
1947.	892,282	532,895	257,099	964,340
1946.	976,631	571,372	274,862	1,147,713
1945.	742,633	426,438	209,400	1,277,410
1944.	704,811	415,576	185,293	950,861
1943.	887,575	504,869	235,060	930,126
1942.	751,428	432,020	192,393	1,132,933
1941.	795,448	471,145	220,048	952,329

The Wheat Cross Roads of America

Millers of

SPRING *and* WINTER HARD WHEATS

6500 CWTS DAILY

INLAND MILLS

INCORPORATED

DES MOINES 5, IOWA

Flour Mill Production and Capacity

1954 Calendar Month Flour Production

Note: In sacks (cwt.). Source: Bureau of the Census, U.S. Department of Commerce.

	Average working day (000's)	Calendar month total (000's)	Offal production (tons)	Wheat ground (bushels) (000's)	24-Hour capacity (000's)	Wh. flour production as % of capacity	Flour extraction rate (%)
January	948	12,962	320,153	43,971	1,070	88.6	71.9
February	868	17,361	344,611	40,222	1,062	81.7	71.9
March	820	18,871	376,594	43,729	1,066	77.0	71.9
April	783	17,217	339,250	39,874	1,066	73.5	71.9
May	795	16,685	327,804	38,582	1,060	74.9	72.1
June	820	18,041	363,478	41,913	1,060	77.4	71.7
July	819	18,022	361,956	41,902	1,061	77.2	71.7
August	854	18,786	380,751	43,752	1,061	80.4	71.6
September	940	19,733	397,086	45,846	1,065	88.2	71.7
October	938	19,688	397,719	45,805	1,065	88.0	71.6
November	915	19,216	387,185	44,656	1,065	85.9	71.7
December	834	19,174	382,856	44,524	*1,065	78.3	*71.7
1954 totals and averages	*†859	221,756	4,439,443	514,776	*1,063	*180.8	*71.8
1953	865	222,177	4,432,000	515,446	1,069	81.1	71.8
1952	892	228,148	4,605,000	532,374	1,098	81.2	71.4
1951	899	229,292	4,626,000	535,235	1,124	79.9	71.4

*Estimated. †Estimated on basis of 258 working days.

Commercial Wheat Milling Production, by States: 1953 and 1952

(From the Bureau of the Census)

	1953							1952
		Wheat flour production						
	Wheat grindings (thousand bushels)	Total (thousand sacks)	Daily (24-hr.) capacity (sacks)	Percent of estimated annual capacity*	Offal product'n (tons)	Av. pounds per sack flour: Wheat	Av. pounds per sack flour: Offal	wheat flour product'n (thousand sacks)
Kansas	71,431	30,702	140,663	85.3	619,810	139.6	40.4	35,045
New York	64,836	28,157	108,601	101.3	549,735	138.2	39.1	27,850
Minnesota	63,724	27,741	118,670	91.3	541,690	137.8	39.1	29,077
Missouri	41,817	17,909	89,011	78.6	371,483	140.1	41.4	19,816
Illinois	32,359	13,774	57,015	94.4	290,349	141.0	42.1	13,685
Texas	27,773	12,033	76,541	61.4	241,515	138.5	40.2	12,262
Ohio	23,273	10,038	47,976	81.7	196,900	139.1	39.3	9,444
Oklahoma	21,301	9,376	39,600	92.5	174,915	136.3	37.3	9,941
Washington	19,746	8,756	46,279	73.9	162,350	135.3	37.0	9,562
California	13,219	5,824	17,973	126.6	108,150	136.2	37.1	5,257
Nebraska	13,434	5,783	23,424	96.4	114,038	139.4	39.4	5,529
Michigan	13,403	5,562	23,585	92.1	105,510	144.6	38.1	5,002
Oregon	12,374	5,427	27,075	78.3	101,326	136.8	37.2	5,582
Utah	10,854	4,841	16,971	117.7	94,931	134.5	39.2	4,292
Colorado	9,479	4,059	18,278	86.7	82,981	140.1	40.9	4,197
Iowa	8,364	3,523	12,406	110.9	68,816	142.4	39.2	3,251
Montana	6,886	3,024	14,505	81.4	55,576	136.6	37.0	2,762
Indiana	7,016	2,970	21,803	53.2	64,143	141.7	43.1	2,939
N. Dakota	6,502	2,783	16,700	65.1	55,487	140.2	39.5	2,530
Oth. states	47,655	19,895	152,979	50.8	432,673	143.7	43.5	20,135
Total	515,446	222,177	1,069,155	81.1	4,432,378	139.2	39.9	228,148

*Estimated annual capacity is obtained by multiplying daily capacity by the number of work days during the year (calculated on the basis of a 5-day week with allowances for the following holidays: Jan. 1, May 30, July 4, Labor Day, Thanksgiving Day and Dec. 25.)

Commercial Wheat Milling Production by Capacity Groups: 1953, 1952 and 1950

(From the Bureau of the Census)

	1953				1952			1950	
	Wheat flour production				Wh't flour produ't'n			Wheat flour Product'n	
	Number of mills	Total (thousands of sacks)	Daily 24-hr. capacity (sacks)	Percent of estim't'd annual capacity	No. of mills	Total (thousands of sacks)	Daily 24-hr. capacity (sacks)	No. of mills	Total (thous. sacks)
50 sacks & under								73	88
51-100 sacks								211	794
101-200 sacks	n. a.	*6,088	*97,626	24.4	n. a.	†6,875	†102,764	220	2,051
201-300 sacks								93	1,763
301-400 sacks								54	1,466
401-800 sacks	70	4,415	38,098	45.3	69	4,130	39,393	97	6,115
801-1,200 sacks	42	6,728	46,066	57.1	49	7,747	50,057	57	9,994
1,201-1,600 sacks	36	8,239	53,289	60.4	40	8,892	56,595	39	8,453
1,601-2,400 sacks	39	19,781	83,242	92.8	42	21,320	88,238	49	20,942
2,401-3,200 sacks	32	18,393	88,782	80.9	34	21,887	94,724	39	26,617
3,201-4,000 sacks	28	24,963	102,490	95.1	28	24,505	102,011	29	26,442
4,001-6,000 sacks	37	43,101	185,404	90.8	35	39,591	168,529	30	32,436
6,001-8,000 sacks	18	29,028	130,771	86.7	20	33,401	142,080	22	35,346
8,001 s'ks & over	18	61,441	243,337	98.6	18	60,800	253,738	15	52,391
Total	n. a.	222,177	1,069,155	81.2	n. a.	228,148	1,098,129	1,028	224,899

n. a. Not available.

*Estimated 1953 capacity and wheat flour production of mills with a daily capacity of 400 sacks and under, based on the per cent change of the larger mills from 1950 to 1953. The larger mills, i.e., those with a daily capacity of 401 sacks and over, represented 91% of the total capacity and 97% of the total wheat flour production in 1950, the last year in which a complete canvass was taken. †1952 data for capacity and production of mills with a daily capacity of 400 sacks and under are not strictly comparable to 1953 data since the estimates were computed by different methods.

U.S. Flour Milling Capacity

United States flour milling capacity is summarized as follows, by states, in The Northwestern Miller's "List of Flour Mills in the United States and Canada," which includes all wheat flour manufacturing establishments in the U.S. with a 24-hour capacity rating of 50 sacks or more known to be active or potentially active on Jan. 1, 1953, as compared with those so recorded on Jan. 1, 1951:

	1951		1953	
	No.	Capacity	No.	Capacity
Alabama	4	2,670	3	2,570
Arizona	6	2,070	2	1,140
Arkansas	10	860	..	.....
California	14	18,390	9	18,860
Colorado	15	18,550	11	18,268
Connecticut	2	580	2	700
Delaware	17	1,558	4	418
D. of C.	1	800	1	800
Florida	1	.....	..	.....
Georgia	25	5,310	17	4,350
Idaho	25	10,464	16	8,495
Illinois	35	70,207	24	68,607
Indiana	63	29,776	40	24,539
Iowa	13	15,310	6	12,650
Kansas	62	176,675	54	163,695
Kentucky	87	29,887	67	24,518
Louisiana	1	100	..	.....
Maine	2	100	..	.....
Maryland	61	12,212	21	6,575
Mass.	2	100	..	.....
Michigan	104	33,055	44	28,209
Minnesota	53	143,779	41	136,890
Mississippi	2	500	1	400
Missouri	51	102,408	26	90,268
Montana	17	15,671	11	15,850
Nebraska	31	33,950	20	30,795
Nevada	3	360	..	.....
New Hamp.	1	1,200	..	.....
N. Jersey	3	2,400	1	2,000
N. Mexico	7	1,550	5	1,158
New York	46	106,286	26	105,836
N. Carolina	160	27,849	102	22,904
N. Dakota	13	17,650	8	15,550
Ohio	111	56,363	50	52,716
Oklahoma	28	50,806	18	42,176
Oregon	20	28,030	12	28,050
Pennsylv'a.	197	27,184	118	19,804
S. Carolina	35	5,970	22	5,094
S. Dakota	11	3,260	3	2,100
Tennessee	105	33,733	74	32,361
Texas	35	82,835	24	78,810
Utah	25	13,930	17	16,180
Virginia	198	30,043	108	24,784
Washington	19	47,650	14	44,360
W. Virginia	42	6,645	18	4,445
Wisconsin	26	11,540	4	610
Wyoming	5	2,530	3	1,930
Totals	1,799	1,282,798	1,044	1,154,245

Canadian Mill Capacity

Note: Daily capacity in barrels. Source: The Northwestern Miller.

Port Colborne, Ont.	13,000
Keewatin, Ont.	10,000
Montreal, Que.	10,000
Winnipeg-St. Boniface, Man.	9,700
Calgary, Alta.	8,500
Saskatoon, Sask.	7,400
Medicine Hat, Alta.	6,100
Humberstone, Ont.	4,500
Moose Jaw, Sask.	4,200
Peterboro, Ont.	3,600
Toronto, Ont.	3,350
Vancouver, B.C.	2,700
Midland, Ont.	2,500
Lethbridge, Alta.	1,250
Galt, Ont.	1,000
St. Mary's, Ont.	1,000

In addition to these large mills, there are several hundred small country mills scattered over the various provinces. During 1954 the mills worked 71.8% of their combined rated average capacity of 96,986 bbl. a month.

Corn-Hog Ratio

The term "corn-hog ratio" is used in designating the profitableness or unprofitableness, as the case may be, of feeding hogs for market. It is the ratio of the market price of one bushel of corn to 100-pound-live-weight-price of hogs.

Arbitrage

"Arbitrage" is a Continental European term for buying grain in one market and selling a similar kind of grain in another market, e.g., buying Plate wheat and selling Manitoba wheat "short."

1953-54 Flour Production in Southwest

• • •

Number of flour mills, capacity ratings, amount of flour produced and wheat ground by mills in Kansas, Oklahoma, Nebraska and Texas during the crop year ended June 30, 1954, as reported to The Northwestern Miller:

KANSAS*

Crop Year Ended June 30, 1954

No. of mills	Capacity rating, sacks	Daily capacity, sacks	Flour production, sacks	Wheat consumption, bu.	Pct. activity
		(000's omitted)			
32	2,000 and over	133,990	27,222	62,186	79.6
12	1,000 to 2,000.	16,890	2,156	4,966	50.0
5	less than 1,000	2,030	97	239	18.7
49		152,910	29,475	67,392	75.5

*Includes Kansas City, Kansas, production.

TEXAS

Crop Year Ended June 30, 1954

No. of mills	Capacity rating, sacks	Daily capacity, sacks	Flour production, sacks	Wheat consumption, bu.	Pct. activity
		(000's omitted)			
12	2,000 and over	60,590	9,873	22,332	63.9
5	1,000 to 2,000.	7,400	1,169	2,747	66.9
4	less than 1,000	2,850	220	519	30.2
21		70,880	11,263	25,829	62.3

NEBRASKA

Crop Year Ended June 30, 1954

No. of mills	Capacity rating, sacks	Daily capacity, sacks	Flour production, sacks	Wheat consumption, bu.	Pct. activity
		(000's omitted)			
4	2,000 and over	18,600	4,666	10,824	98.3
4	1,000 to 2,000.	5,800	1,035	2,429	69.9
3	400 to 1,000.	2,750	228	538	51.2
5	less than 400.	1,120	48	114	16.6
16		27,270	5,977	13,904	85.9

OKLAHOMA

Crop Year Ended June 30, 1954

No. of mills	Capacity rating, sacks	Daily capacity, sacks	Flour production, sacks	Wheat consumption, bu.	Pct. activity
		(000's omitted)			
10	1,500 and over	36,980	9,009	20,443	95.5
7	less than 1,500	4,000	267	604	26.2
17		40,980	9,276	21,047	88.7

CAPACITY OPERATED

Percentage of output as related to full capacity (based on 255 running days) of mills in the Southwest for the crop year ending June 30, 1954, with previous years for comparisons:

1953-54

	2,000 and over	1,000 to 2,000	400 to 1,000	200 to 400	Less than 200	Average
Kan.	79.6	50.0	18.7	**	**	75.5
Texas	63.9	66.9	30.2	**	**	62.3
Okla.	95.5*	26.2†	**	**	**	88.7
Neb.	98.3	69.9	51.2	16.6	**	85.9

*1,500 and over. †Less than 1,500.

1952-53

Kan.	83.4	58.4	16.9	**	**	76.7
Texas	67.1	57.2	27.8	**	**	61.3
Okla.	88.9	36.7	14.3	**	**	75.9
Neb.	100.7	73.4	38.3	16.1	**	85.2

1951-52

Kan.	84.3	55.0	18.0	7.7	**	79.6
Texas	58.6	65.1	27.8	**	**	57.6
Okla.	82.0	54.9	16.6	**	**	72.6
Neb.	80.3	70.3	50.3	18.1	4.3	72.0

1950-51

Kan.	85.9	56.0	16.3	4.2	**	81.1
Texas	66.7	60.7	23.4	**	**	63.9
Okla.	90.6	56.3	18.8	**	**	79.9
Neb.	91.4	69.5	54.4	28.0	6.8	79.9

1949-50

Kan.	83.6	54.9	41.3	3.8	**	78.9
Texas	69.6	75.8	39.1	**	**	68.3
Okla.	91.6	66.5	40.9	**	**	84.1
Neb.	84.6	69.7	52.7	28.7	7.4	75.2

1948-49

Kan.	102.0	83.5	51.1	..	11.8	96.9
Texas	91.3	80.4	50.3	..	..	85.8
Okla.	101.0	88.9	55.9	35.3	..	94.0
Neb.	111.1	89.5	44.2	18.6	7.7	89.7

**Only one mill was active in these categories. In order to avoid disclosure of individual operations the figures are combined with the next higher capacity group.

PRODUCTION AT KANSAS CITY

Capacity and production at Kansas City during the crop year ended June 30, 1954, with previous years for comparison (Kansas City figures include both Kansas City, Mo., and Kansas City, Kansas).

	Sacks: Yearly capacity	Flour made	Pct. of activity
1954.....	14,739,000	13,185,729	89.5
1953.....	16,179,750	14,035,802	86.7
1952.....	17,646,000	14,813,349	83.9
1951.....	17,595,000	16,356,814	92.9
1950.....	17,506,700	15,178,382	86.7
1949.....	17,904,800	17,349,823	96.9
1948.....	16,446,900	18,289,008	111.2
1947.....	15,705,300	18,045,427	114.9
1946.....	15,124,300	14,927,727	98.7
1945.....	15,028,200	13,961,223	92.9
1944.....	15,137,500	13,336,224	88.1
1943.....	15,010,600	13,104,302	87.3
1942.....	14,902,500	13,024,819	87.4
1941.....	14,946,100	12,644,477	84.6

CONSOLIDATED BY YEARS

Number of active flour mills in the Southwest (including Kansas, Oklahoma, Nebraska, Texas and Kansas City), their combined daily capacity, number of sacks of flour produced, number of bushels of wheat ground and percentage of capacity operated, by years, ending June 30:

ALL SOUTHWEST

Crop year	No. mills	Daily capacity, sacks	Flour made, sacks	Wheat ground, bu.	Pct. of activity
1954.	109	345,840	68,654,426	157,608,615	79.2
1953.	123	370,800	71,808,667	164,529,131	79.2
1952.	137	388,741	74,214,771	173,674,669	74.8
1951.	137	384,141	78,455,074	182,316,725	80.0
1950.	138	383,609	76,711,604	179,329,003	78.5
1949.	166	398,887	95,985,452	220,182,013	93.8
1948.	168	388,560	103,436,802	244,563,837	108.8
1947.	180	377,625	106,789,024	245,380,447	111.1
1946.	185	399,226	88,779,412	203,711,238	97.1
1945.	191	354,901	83,308,902	194,513,993	92.2
1944.	199	350,144	79,310,519	187,895,163	88.3
1943.	213	352,300	74,159,856	171,661,220	82.0
1942.	231	354,642	68,681,579	160,222,782	76.6
1941.	239	361,747	70,234,009	161,083,859	76.3

KANSAS

Including Kansas City, Kansas, production.

1954..	49	152,910	29,474,964	67,391,558	75.5
1953..	53	161,990	31,723,451	73,185,933	76.7
1952..	56	173,998	35,358,149	82,629,579	79.6
1951..	56	172,445	35,663,352	83,926,477	81.1
1950..	57	172,819	34,684,469	81,665,081	78.9
1949..	67	181,555	44,734,764	102,263,484	96.0
1948..	67	179,285	50,932,885	113,884,291	110.6
1947..	70	174,065	49,143,112	113,936,798	111.0
1946..	72	164,566	39,997,443	91,912,386	95.5
1945..	72	163,285	36,734,558	86,592,170	88.3
1944..	71	156,525	37,401,991	90,857,762	93.1
1943..	74	161,413	34,331,037	79,408,296	82.8
1942..	77	157,643	30,802,178	71,663,881	77.1
1941..	79	157,143	30,809,306	70,225,991	77.1

TEXAS

1954..	21	70,880	11,262,616	25,828,929	62.3
1953..	23	78,360	12,246,272	30,333,189	61.3
1952..	28	80,100	11,779,321	27,754,384	57.6
1951..	28	79,460	12,994,638	30,149,608	63.9
1950..	28	79,020	13,749,019	31,860,099	68.3
1949..	37	83,079	18,317,981	41,245,081	85.8
1948..	37	82,304	21,648,763	49,164,299	102.4
1947..	37	78,189	21,743,865	49,813,152	109.2
1946..	38	76,324	18,992,949	44,093,716	97.6
1945..	42	76,855	16,786,993	39,447,083	85.9
1944..	42	77,812	14,426,388	34,219,102	72.3
1943..	44	75,382	12,984,639	30,275,176	67.1
1942..	45	77,106	12,382,110	29,347,596	63.5
1941..	45	83,437	14,031,983	32,390,123	66.7

OKLAHOMA

1954..	17	40,980	9,275,940	21,046,683	88.7
1953..	23	51,080	9,897,762	22,094,352	75.9
1952..	24	51,750	9,592,571	22,382,406	72.6
1951..	24	50,443	10,278,882	23,765,470	79.9
1950..	24	50,000	10,760,279	24,799,142	84.1
1949..	26	49,570	11,965,094	27,670,407	94.0
1948..	26	48,676	13,851,513	31,565,089	110.9
1947..	29	49,176	14,055,308	31,926,050	113.1
1946..	29	45,446	11,238,353	25,708,827	97.2
1945..	30	44,303	11,778,774	27,131,589	104.5
1944..	30	44,036	10,538,656	24,543,088	93.2
1943..	30	42,448	9,813,756	22,534,568	90.0
1942..	36	43,522	8,706,203	20,377,149	79.0
1941..	35	43,698	8,966,612	20,849,870	80.7

NEBRASKA

1954..	16	27,270	5,976,521	13,904,266	85.9
1953..	18	26,270	5,707,337	10,236,828	85.2
1952..	23	30,393	5,586,644	13,024,007	72.0
1951..	23	29,493	6,012,246	13,911,228	79.9
1950..	23	29,770	5,703,695	13,343,359	75.2
1949..	30	31,783	7,326,262	16,904,425	89.7
1948..	30	30,895	8,291,995	19,099,474	104.5
1947..	38	31,195	8,339,327	19,195,962	105.1
1946..	40	30,160	7,246,669	16,317,029	94.4
1945..	41	28,129	6,905,856	16,241,710	96.5
1944..	50	29,449	6,701,482	14,857,848	88.7
1943..	59	31,307	6,765,569	15,903,147	84.2
1942..	67	34,231	6,388,214	14,986,816	73.7
1941..	74	35,682	6,628,214	14,397,306	73.7

U.S. Flour Production

Note: By calendar years. Based on reports from mills producing 98% of flour in U.S, 000's omitted. Source: Department of Commerce.

	Wheat ground, bus	Flour output, sacks	Millfeed output, tons
1954.....	514,776	221,756	4,439
1953.....	515,446	222,177	4,432
1952.....	532,374	228,148	4,605
1951.....	534,916	229,292	4,617
1950.....	**524,524**	**225,697**	**4,524**
1949.....	**543,475**	**234,351**	**4,651**
1948.....	639,476	279,133	5,337
1947.....	701,799	305,499	5,913
1946.....	612,006	273,197	4,793
1945.....	629,822	269,804	5,510
1944.....	548,237	236,369	4,722
1943.....	531,512	229,776	4,538
1942.....	495,314	212,918	4,271
1941.....	482,339	207,745	4,166
1940.....	468,706	201,869	4,075
1939.....	482,283	206,533	4,247
1938.....	471,169	201,075	4,190
1937.....	462,284	196,539	4,185

Kansas City Flour Output

Note: By calendar years, in sacks. Source: The Northwestern Miller.

	1954	1953	1952	1951
Jan.	1,072,600	1,146,900	1,554,021	1,654,689
Feb.	1,054,800	1,029,700	1,233,722	1,324,223
Mch.	1,157,600	1,068,500	1,135,179	1,463,757
April	1,215,700	1,046,781	1,224,978	1,291,923
May	967,200	1,000,000	1,185,857	1,324,794
June	1,106,300	981,800	1,127,222	1,194,219
July	1,093,500	1,120,100	1,306,541	1,137,598
Aug.	1,076,200	1,035,700	1,303,244	1,160,229
Sept.	1,120,500	1,169,500	1,296,950	1,198,892
Oct.	1,080,000	1,228,000	1,360,388	1,417,351
Nov.	1,101,900	1,080,200	1,204,010	1,295,792
Dec.	1,145,100	1,104,734	1,167,572	1,151,109
Tot.	13,191,400	13,017,915	15,099,684	15,614,576

Wheat Seedings by States

Note: In million acres. Source: USDA

Harvest year	N. Dakota	S. Dakota	Montana	Nebraska	Kansas	Oklahoma	Texas	Washington
1954..	8.2	2.8	4.7	3.7	11.7	5.3	4.8	2.3
1953..	10.3	3.8	6.2	4.5	14.3	7.0	5.4	3.1
1952..	10.6	3.9	6.2	4.6	15.0	6.3	5.0	3.0
1951..	10.7	4.0	6.2	4.6	14.7	6.2	6.0	3.1
1950..	9.1	3.5	5.2	4.3	13.8	5.9	5.6	2.7
1949..	11.0	4.4	5.9	4.7	16.2	7.6	7.5	3.2
1948..	10.1	4.0	5.2	4.5	14.6	7.3	6.8	3.0
1947..	10.4	3.9	5.2	4.5	15.4	7.1	7.6	2.9
1946..	10.4	3.8	4.4	4.0	14.0	6.7	6.8	2.8
1945..	10.0	3.4	4.1	3.8	14.1	6.3	5.8	2.7
1944..	10.2	3.3	4.4	3.7	13.1	5.2	4.4	2.5
1943..	8.6	3.2	4.0	3.1	10.7	3.8	3.6	2.5
1942..	7.5	2.7	3.4	3.1	10.7	3.8	3.6	1.7

Industrial Uses of Flour

Approximately 3% of the wheat flour produced in the U.S. is used industrially for nonfood purposes. The manufacture of adhesives accounts for sizable quantities, and iron foundries use flour as a binder for sand cores in iron castings.

Separation of flour into its constituent starch and gluten or protein fractions has been a recent development. The starch has uses in the food industry and the gluten is one of the raw products used in the manufacture of sodium glutamate. The undenatured protein has a place in the manufacture of pharmaceutical grade amino acids for research laboratories and for nutritional purposes.

U.S. Rye Flour Production

Note: By calendar years. Source: Bureau of the Census, U.S. Department of Commerce.

Month 1954—	Grain ground, bu. (000's omitted)	Flour output, sacks (000's omitted)	Offal produced, tons (000's omitted)
December	451	203	2,339
November	412	187	2,124
October	444	197	2,383
September	424	190	2,253
August	419	189	2,229
July	407	186	1,966
June	382	173	1,905
May	392	181	1,905
April	433	198	2,069
March	405	185	2,003
February	370	167	1,924
January	456	206	2,380
Total, 1954	4,995	2,262	25,480
1953	5,136	2,270	29,338
1952	5,336	2,340	31,280
1951	5,232	2,306	30,584
1950	4,844	2,168	26,631
1949	4,733	2,138	24,254
1948	4,937	2,189	28,006
1947	4,389	1,942	24,618
1946	5,725	2,489	33,930
1945	7,880	3,493	45,704
1944†	8,393	3,577	48,679
1943†	9,739	4,150	56,486
1942†	8,100	3,451	46,980
1941†	6,892	2,937	39,974
1940†	7,344	3,129	42,595
1939†	6,918	2,947	40,124
1938†	6,294	2,682	36,505
1937†	6,421	2,736	37,242

†Data prior to June, 1945, computed by USDA from trade sources related to Census of Manufactures.

Minneapolis Flour Mills

Note: Daily capacity in sacks. Source: The Northwestern Miller.

Atkinson Milling Co.	6,000
General Mills, Inc., Central Division	21,500
King Midas Flour Mills	2,200
Commander-Larabee Milling Co.	7,600
Pillsbury Mills, Inc.	17,000
Russell-Miller Milling Co. (Idle)	6,500
Standard Milling Co.	6,000
Total	68,800

Chicago Flour Mills

Note: Daily capacity in sacks.

B. A. Eckhart Milling Co.	6,800
Elam Mills	400
General Mills, Inc., Central Division	7,900
Total	15,100

United States Seed Act

The Federal Seed Act, which supersedes the Federal Seed Act of 1912 (amended 1916 and 1926) became effective Feb. 5, 1940, and is under the administration of the Agricultural Marketing Service of the United States Department of Agriculture. The new law controls the quality of all imported agricultural seeds and vegetable seeds, and restricts the importation of screenings and seeds containing noxious weed seeds. This statute makes it unlawful to ship in interstate commerce agricultural seeds that are falsely labeled, and requires affirmative labeling to show germination and purity as well as the name and address of shipper or consignee, with shipper's code designation.

Minneapolis Flour Production

Note: By calendar years, in sacks. Source: The Northwestern Miller.

	1954	1953	1952	1951
Jan.	1,130,800	1,388,300	1,343,648	1,456,407
Feb.	955,500	1,151,600	1,141,815	1,125,332
Mch.	1,119,700	1,224,400	1,081,112	1,135,559
April	857,900	1,117,268	1,160,180	876,429
May	784,900	1,138,200	1,079,588	1,081,434
June	1,006,600	1,038,400	1,117,044	944,063
July	915,600	1,032,500	1,145,462	1,096,115
Aug.	1,026,100	1,042,000	1,171,595	1,182,852
Sept.	1,138,400	1,155,100	1,299,200	1,133,498
Oct.	989,500	1,217,900	1,412,800	1,286,044
Nov.	1,063,600	1,067,000	1,195,322	1,293,996
Dec.	960,100	1,005,395	1,239,200	1,106,782
Tot.	11,948,700	13,578,063	14,386,966	13,718,511

Buffalo Flour Production

Note: By calendar years, in sacks. Source: The Northwestern Miller.

	1954	1953	1952	1951
Jan.	2,135,900	2,097,400	2,403,165	2,461,595
Feb.	2,072,800	1,969,300	1,997,390	2,013,820
Mch.	2,190,700	2,088,300	2,084,730	2,018,212
April	1,791,600	2,065,196	2,044,916	1,720,910
May	2,014,400	2,201,800	2,008,673	1,933,954
June	2,245,200	2,172,200	2,288,347	1,820,820
July	2,183,100	2,150,400	2,367,457	2,018,462
Aug.	2,253,900	2,087,400	2,067,212	2,348,300
Sept.	2,447,300	2,361,400	2,289,500	2,002,734
Oct.	2,406,700	2,473,500	2,287,900	2,193,751
Nov.	2,588,500	2,301,600	2,091,274	2,217,794
Dec.	2,464,600	2,247,634	1,199,800	2,093,412
Tot.	26,794,700	26,216,130	26,130,374	24,843,764

Canadian Wheat Inspections

Note: At Winnipeg and other points in western Canada, by crop years, ending July 31, in bushels.

1953-54..	337,114,919	1944-45..	414,222,513
1952-53..	470,367,968	1943-44..	396,282,614
1951-52..	421,497,737	1942-43..	170,298,564
1950-51..	303,616,809	1941-42..	296,749,848
1949-50..	302,472,966	1940-41..	294,190,690
1948-49..	285,455,775	1939-40..	373,710,121
1947-48..	235,781,669	1938-39..	278,956,568
1946-47..	311,866,664	1937-38..	119,138,676
1945-46..	287,038,065	1936-37..	183,673,022

Canadian Flour Production

Note: By calendar years, in barrels. Source: Dominion Bureau of Statistics.

1954*.....	21,283,243	1947.....	28,057,463
1953.....	22,246,184	1946.....	27,375,239
1952.....	24,091,630	1945.....	25,059,216
1951.....	22,967,637	1944.....	24,292,051
1950.....	21,023,014	1943.....	24,474,696
1949.....	19,971,464	1942.....	20,760,396
1948.....	22,385,632	1941.....	20,471,347

*Preliminary.

Duluth-Superior Flour Mills

Note: Daily capacity in sacks.

Duluth—Duluth Universal Milling Co.	1,500
Superior—King Midas Flour Mills	8,400
Total	9,900

FOR WANT AD RESULTS:
The Northwestern Miller

Buffalo Flour Mills

Note: Daily capacity in sacks.

General Mills, Inc., Eastern Division	36,700
International Milling Co.	15,000
Pillsbury Mills, Inc.	23,000
Russell-Miller Milling Co.	10,000
Standard Milling Co.	5,000
George Urban Milling Co.	5,000
Total	94,700

Seattle-Tacoma Flour Mills

Note: Daily capacity in sacks.

Seattle—	
Fisher Flouring Mills Co.	15,000
Novelty Flour Mills Co.	1,000
Total	16,000
Tacoma—	
General Mills, Inc., Sperry Division	8,400
Total	8,400

Mills in the Southwest

Note: Daily capacity in sacks.

KANSAS CITY	
Kansas Flour Mills Co.	14,400
Commander-Larabee Milling Co.	11,770
Midland Flour Milling Co.	4,600
Rodney Milling Co.	7,700
General Mills, Inc., Central Div.	13,500
Sunshine Biscuits, Inc.; milling div.	4,000
Total	55,970
ATCHISON	
Blair Milling & Elevator Co.	4,600
Pillsbury Mills, Inc.	6,300
Total	10,900
SALINA	
Weber Flour Mills Co.	4,000
Robinson Milling Co.	2,700
Shellabarger's	6,600
Western Star Mill Co.	3,000
Total	16,300
SHERMAN	
Fant Milling Co.	3,000
Quaker Oats Co.	2,600
Total	5,600
DALLAS-FT. WORTH	
Dallas—Morten Milling Co.	7,200
Russell-Miller Milling Co.	7,500
Ft. Worth—Bewley Mills	3,600
Burrus Mill & Elevator Co.	8,400
Total	26,700
WICHITA	
Kansas Milling Co.	8,200
General Mills, Inc.	5,200
Wichita Flour Mills Co.	5,000
Total	18,400
OMAHA	
Omaha Flour Mills Co.	7,000
Nebraska Consolidated Mills Co.	3,600
Total	10,600
HUTCHINSON	
William Kelly Milling Co.	5,000
Commander-Larabee Milling Co.	4,900
Total	9,900
ARKANSAS CITY	
New Era Milling Co.	4,000
Arkansas City Flour Mills Co.	8,000
Total	12,000
NEWTON	
Midland Flour Milling Co.	2,600
Claassen's Mill	150
Consolidated Flour Mills Co.	2,000
American Flours, Inc.	4,000
Total	8,750

U.S. Flaxseed Production and Acreage by States

Note: By calendar years, 000's omitted. Source: USDA

State—	Acreage, harvested, Average 1943-52	1953	1954	Yield per acre, bu., Average 1943-52	1953	1954	Production, bu., Average 1943-52	1953	1954
Michigan	7	2	...	7.4	10.0	...	50	20	...
Wisconsin	12	7	5	12.6	12.5	12.5	149	88	62
Minnesota	1,251	1,090	992	10.0	8.5	8.5	12,600	9,265	8,432
Iowa	100	25	27	12.7	9.5	10.0	1,239	238	270
North Dakota	1,559	2,443	3,420	8.0	7.7	7.2	12,636	18,811	24,624
South Dakota	521	696	933	9.0	9.0	6.0	4,680	6,264	5,598
Kansas	87	5	2	6.2	4.5	6.5	550	22	13
Texas	119	124	105	7.1	7.0	5.5	819	868	578
Montana	159	40	134	7.1	9.0	5.0	1,104	360	670
Arizona	19	...	4	25.0	...	24.5	469	...	98
California	133	24	41	22.2	30.5	29.0	2,720	732	1,189
U. S.	3,996	4,456	5,663	9.3	8.2	7.3	37,232	36,668	41,534

Canadian Flour to Philippines

Note: In barrels. Source: Dominion Bureau of Statistics.

1953-54....	1,145,156	1947-48.....	135,265
1952-53....	1,186,934	1946-47	658,339
1951-52....	1,083,821	1945-46.....	411,619
1950-51....	1,037,519	1944-45.....	44,689
1949-50....	1,046,800	1943-44.....	.....
1948-49.....	643,363	1942-43.....	.....

Kansas City Receipts, Shipments

Note: In bushels. Source: Kansas City Board of Trade.

RECEIPTS

1954—	Wheat	Corn	Oats
January	7,093,800	2,036,800	260,000
February ...	4,341,600	2,603,000	169,000
March	5,227,200	2,755,000	252,200
April	3,969,000	2,908,900	174,200
May	3,445,200	2,369,300	158,600
June	18,813,600	2,052,000	135,200
July	26,647,200	1,736,600	569,400
August	8,197,200	2,107,100	342,200
September ..	5,842,800	2,027,300	249,600
October	5,880,600	1,711,900	397,800
November ..	4,230,000	3,340,200	247,000
December ..	5,144,400	2,302,800	283,400
Total	98,832,600	27,950,900	3,239,600
1953—	Wheat	Corn	Oats
January	6,728,400	1,674,500	372,000
February ...	4,620,600	1,497,700	506,000
March	4,986,000	2,150,500	574,000
April	7,479,000	2,102,900	282,000
May	5,272,200	1,672,800	252,000
June	23,365,800	3,100,800	200,000
July	27,678,600	2,682,600	278,000
August	7,104,600	2,561,900	518,000
September ..	5,533,200	2,793,100	224,000
October	5,713,200	4,559,400	226,000
November ..	5,144,400	4,501,600	380,000
December ..	3,933,000	1,672,800	212,000
Total	107,559,000	30,970,600	4,024,000
1952—	Wheat	Corn	Oats
January	7,421,400	4,595,100	438,000
February ...	7,695,000	3,066,800	300,000
March	6,105,600	2,459,900	394,000
April	5,070,600	1,778,200	390,000
May	4,926,600	1,689,800	338,000
June	28,841,400	1,218,900	298,000
July	38,401,200	1,689,800	606,000
August	9,594,000	1,866,600	804,000
September ..	5,484,600	1,786,700	834,000
October	4,897,800	5,742,600	432,000
November ..	5,322,600	7,660,200	338,000
December ..	5,338,800	2,306,900	650,000
Total	129,099,600	35,861,500	5,822,000

SHIPMENTS

1954—	Wheat	Corn	Oats
January	3,996,000	1,014,600	145,600
February ...	3,121,200	1,254,000	127,400
March	3,056,400	1,755,600	163,800
April	2,334,600	2,029,200	59,800
May	2,602,800	1,029,800	54,600
June	6,615,000	936,700	31,200
July	16,273,800	1,502,900	163,800
August	4,809,600	727,700	202,800
September ..	4,118,400	568,100	202,800
October	6,672,600	693,500	275,600
November ..	5,509,800	855,000	176,800
December ..	5,012,200	1,227,400	364,000
Total	63,122,400	13,594,500	1,968,200
1953—	Wheat	Corn	Oats
January	5,026,900	1,845,000	292,000
February ...	3,517,300	1,194,000	350,000
March	2,922,300	1,321,500	370,000
April	2,663,900	1,369,500	192,000
May	2,204,900	1,152,000	194,000
June	8,413,300	1,585,500	74,000
July	16,280,900	1,545,000	90,000
August	6,686,100	1,177,500	146,000
September ..	4,350,300	1,261,500	156,000
October	4,814,400	2,184,000	194,000
November ..	4,083,400	1,608,000	262,000
December ..	3,017,500	1,648,500	170,000
Total	63,981,200	17,892,000	2,490,000
1952—	Wheat	Corn	Oats
January	7,828,500	1,533,000	316,000
February ...	6,405,600	924,000	248,000
March	7,034,600	1,696,500	186,000
April	5,015,000	1,719,000	220,000
May	3,333,700	1,075,500	232,000
June	5,309,100	886,500	134,000
July	14,171,200	855,500	326,000
August	6,273,000	847,500	654,000
September ..	5,428,100	495,000	492,000
October	6,028,200	1,240,500	448,000
November ..	4,911,300	2,560,500	282,000
December ..	3,910,000	2,392,500	470,000
Total	75,648,300	16,326,000	4,008,000

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Commercial Wheat Milling Production: 1940-53*

(From the Bureau of the Census)

Year—	Wheat flour production (thousand sacks)	Wheat grindings (thousand bushels)	Offal production (thousand tons)	Average number of pounds per sack of flour: Wheat	Average number of pounds per sack of flour: Offal	Flour extraction rate
1940	212,700	494,900	4,302	139.6	40.5	71.6
1941	216,800	504,300	4,356	139.6	40.2	71.6
1942	221,100	515,300	4,444	139.8	40.2	71.5
1943	237,900	551,100	4,718	139.0	39.7	71.9
1944	243,400	565,100	4,878	139.3	40.1	71.8
1945	274,400	640,720	5,598	140.1	40.8	71.4
1946	278,900	624,740	4,895	134.4	35.1	74.4
1947	305,499	701,799	5,913	137.8	38.7	72.6
1948	279,133	639,476	5,337	137.4	38.2	72.8
1949	234,351	543,475	4,651	139.1	39.7	71.9
1950	224,899	523,411	4,534	139.6	40.3	71.6
1951	229,292	535,235	4,626	140.1	40.4	71.4
1952	228,148	532,374	4,605	140.0	40.4	71.4
1953	222,177	515,446	4,432	139.2	39.9	71.8

*Figures for all years represent total production and grindings of commercial mills in the U.S. For 1940-1944, estimates developed with the cooperation of the Bureau of Agricultural Economics. For 1945-1946, Census estimates. For 1947-1950, as reported to Census Bureau by all commercial mills. For 1951 to 1953 estimates based on monthly reports from all commercial mills with a daily capacity of over 400 sacks.

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BROKERS IN FEED INGREDIENTS

U.S. Calendar Year Flour Production by States

Note: By calendar years. Since 1947 about 96% of totals are reported by the 400 largest mills and the balance estimated. Previous reports were from mills which produced approximately 98% of the flour in the U.S. In sacks, 000's omitted. Source: Bureau of the Census, U.S. Department of Commerce.

	1954	1953	1952	1951	1950	1949	1948	1947	1946
Kansas	29,727	30,700	35,045	36,008	35,151	36,685	51,119	52,124	43,883
Minnesota	26,467	27,738	29,067	28,933	28,103	28,113	31,055	40,080	33,910
New York	27,859	28,155	27,850	26,311	26,992	29,225	30,183	32,476	33,455
Missouri	17,851	17,906	19,816	21,968	20,337	21,906	26,491	27,377	23,020
Texas	11,270	12,035	12,262	12,454	13,497	14,657	19,608	21,609	19,087
Illinois	14,291	13,773	13,685	13,346	12,447	12,082	14,197	14,322	12,649
Washington	9,740	8,756	9,562	9,643	9,118	9,531	11,791	12,630	12,854
Oklahoma	9,348	9,376	9,941	9,785	10,504	10,757	13,149	14,300	12,170
Ohio	10,196	9,997	9,444	9,182	9,567	9,556	9,599	9,142	9,377
Oregon	5,778	5,425	5,582	5,741	4,687	5,033	5,893	7,411	7,095
Nebraska	6,268	5,783	5,321	6,010	5,799	5,777	7,990	8,521	7,379
Indiana	2,899	2,969	*	2,872	3,146	3,352	4,155	4,453	4,306
California	5,370	5,823	5,257	4,891	4,600	4,358	4,000	4,860	4,403
Iowa	3,820	3,526	3,251	3,071	*	3,069	3,720	4,459	4,463
Montana	3,361	3,026	2,762	2,993	3,060	3,076	3,615	4,267	4,121
Tennessee	*	*	*	*	*	3,343	3,784	4,780	4,166
Michigan	5,659	5,565	5,002	4,444	4,253	4,330	4,629	4,452	4,381
Kentucky	*	*	*	*	*	4,187	3,933	4,633	3,637
Pennsylvania	*	*	*	*	*	2,066	2,401	2,834	2,338
Colorado	4,189	4,059	4,303	4,086	*	4,368	5,540	5,487	4,583
N. Dakota	2,905	2,784	2,738	2,758	2,716	2,784	3,307	4,765	4,198
Utah	4,913	4,480	4,292	4,090	3,844	3,649	3,704	3,693	3,292
Virginia	*	*	*	*	*	2,065	3,462	3,913	3,338
N. Carolina	*	*	*	*	*	2,023	2,246	2,442	1,702
Wisconsin	*	*	*	1,456	2,415	2,299	2,519	2,481	2,101
Maryland	*	*	*	*	*	1,049	1,401	1,437	1,431
Idaho	*	*	*	*	*	1,796	2,259	2,583	2,248
Georgia	*	*	*	*	*	503	532	753	609
So. Carolina	*	*	*	*	*	279	319	264	335
W. Virginia	*	*	*	*	*	*	*	133	326
Others	19,845	19,616	22,968	19,471	20,150	2,493	2,532	2,942	2,340
U. S.	221,756	221,852	228,148	229,292	225,697	234,351	279,133	305,499	273,197

*Included under Others.

U.S. Crop Year Flour Production by States

Note: By crop years ending June 30. Since 1947 about 96% of the totals are reported by the 400 largest mills and the balance estimated. Previous reports were from mills which produced approximately 98% of the flour in the U.S. In sacks, 000's omitted. Source: Bureau of the Census, U.S. Department of Commerce.

State—	1953-54	1952-53	1951-52	1950-51	1949-50	1948-49	1947-48	1946-47
Kansas	30,114	31,983	35,746	36,182	35,221	47,718	51,094	49,736
Minnesota	26,627	29,093	29,156	28,697	27,963	28,756	34,076	39,438
New York	27,749	27,723	27,337	25,839	29,317	29,237	29,834	34,246
Missouri	17,721	18,787	20,384	22,056	20,218	25,218	26,431	26,193
Texas	11,452	12,609	11,885	13,032	13,721	17,537	20,601	21,369
Illinois	14,112	13,814	13,258	12,966	12,211	13,306	13,869	13,742
Washington	9,184	9,225	9,405	10,001	8,716	11,110	10,133	12,510
Oklahoma	9,188	9,723	9,700	10,338	10,691	12,064	13,693	13,891
Ohio	10,107	9,993	9,228	9,238	9,668	9,913	9,276	9,410
Nebraska	5,975	5,728	5,580	6,029	5,577	7,289	8,100	8,339
Oregon	5,445	5,581	5,569	5,333	4,738	5,669	6,207	7,631
Indiana	2,998	2,930	2,907	2,952	3,277	3,544	4,128	4,400
California	5,476	5,494	5,059	4,802	4,492	4,171	4,245	4,895
Iowa	3,603	3,468	3,176	....	....	....	....	4,782
Michigan	5,626	5,355	4,677	4,176	4,512	4,442	4,485	4,530
Colorado	4,222	4,132	4,096	4,005	2,941	5,010	5,551	5,310
Montana	3,304	2,857	2,803	2,905	3,133	3,543	3,713	4,169
Tennessee	....	....	....	....	....	....	....	4,872
Utah	4,931	4,550	4,165	3,950	3,844	3,710	3,483	3,517
Kentucky	....	....	....	....	....	....	....	3,779
Pennsylvania	....	....	....	....	....	....	....	2,735
North Dakota	3,050	2,565	2,677	2,668	2,746	3,121	3,851	4,728
Wisconsin	....	....	....	2,417	2,321	2,351	2,497	2,291
North Carolina	....	....	....	....	....	....	....	1,999
Virginia	....	....	....	....	....	....	....	3,711
Idaho	....	....	....	....	....	....	....	2,381
Maryland	....	....	....	....	....	....	....	1,415
South Carolina	....	....	....	....	....	....	....	351
Georgia	....	....	....	....	....	....	....	746
West Virginia	....	....	....	....	....	....	....	311
Others	19,635	19,592	20,404	21,971	20,950	23,829	26,733	2,627
U. S.	220,519	225,202	227,207	229,557	227,327	260,983	286,398	301,718

Canadian Flour and Grain Crop Year Exports

Note: By crop years, ending July 31, 000's omitted. Source: Dominion Bureau of Statistics.

	Wheat flour bbl.	Wheat bu.	Oats bu.	Barley bu.	Rye bu.	Flaxseed bu.
1953-54*	10,292	208,835	69,232	90,044	16,835	5,172
1952-53	12,640	329,026	64,857	118,857	8,993	4,060
1951-52	11,356	304,722	69,579	69,915	6,820	2,882
1950-51	12,427	185,039	34,718	23,076	9,367	4,131
1949-50	10,151	184,857	22,079	17,795	10,882	2,908
1948-49	10,688	179,613	27,868	21,812	10,554	4,595
1947-48	13,660	136,897	7,425	2,896	10,270	1,905
1946-47	17,660	163,072	21,776	6,903	5,269	61
1945-46	13,786	273,996	40,535	5,476	3,038	378
1944-45	13,923	287,342	84,015	39,000	4,000	3,500
1943-44	13,464	283,166	68,668	36,103	8,108	10,050
1942-43	12,575	158,112	59,023	33,761	2,004	6,000
1941-42	10,206	179,902	2,068	2,058	2,792	865
1940-41	10,289	184,906	8,759	2,721	1,957	76

*Preliminary.

Canadian Oatmeal Output

Note: Including rolled oats, by crop years, ending July 31, in sacks (100 lb.). Source: Dominion Bureau of Statistics.

Crop years	Production	Exports
1953-54*	958,310	129,761
1952-53	844,548	84,810
1951-52	999,767	176,111
1950-51	970,859	112,102
1949-50	1,081,111	231,645
1948-49	1,165,133	295,784
1947-48	1,475,595	790,084
1946-47	2,102,595	1,314,423
1945-46	2,128,362	1,047,661
1944-45	2,157,096	1,345,096
1943-44	1,259,405	423,551
1942-43	1,025,405	164,337
1941-42	1,804,963	1,151,953

*Preliminary.

Canadian Mill Activity

Note: By crop years ending July 31, in barrels. Source: Dominion Bureau of Statistics.

	1953-54 Output bbl.	1953-54 % operation	1952-53 Output bbl.	1952-53 % operation
Aug.	1,423,693	56.2	1,941,977	77.9
Sept.	1,742,629	71.6	2,132,496	87.8
Oct.	1,909,488	75.7	2,300,445	91.9
Nov.	1,866,563	77.2	2,175,933	89.8
Dec.	1,815,315	72.7	1,831,673	73.0
Jan.	1,661,799	68.6	1,771,786	70.1
Feb.	1,717,646	73.8	1,797,376	77.4
March	1,829,768	69.9	1,972,109	77.5
April	1,763,146	72.2	1,915,482	78.5
May	1,707,007	70.0	2,157,213	93.4
June	1,770,904	70.4	1,990,142	86.3
July	1,595,813	63.4	1,884,388	74.4
	20,803,771	70.1	23,871,020	81.4

Canadian Flour Output

Note: By crop years ending July 31, in barrels. Source: Dominion Bureau of Statistics.

	Production	Exports
August	1,423,693	827,588
September	1,742,629	747,741
October	1,909,488	749,098
November	1,866,563	900,514
December	1,815,315	911,726
January	1,661,799	880,532
February	1,717,646	694,768
March	1,829,768	1,029,780
April	1,763,146	845,896
May	1,707,007	945,486
June	1,770,904	893,738
July	1,595,813	864,694
1953-54	20,803,771	*10,291,561

	Total Canada	Wheat flour exported
1952-53	23,871,020	12,639,857
1951-52	22,842,441	11,356,288
1950-51	23,630,180	12,426,996
1949-50	20,259,200	10,151,090
1948-49	20,379,997	10,687,561
1947-48	24,159,696	13,661,573
1946-47	28,588,456	17,660,109
1945-46	26,435,341	13,786,177
1944-45	24,684,403	13,923,832
1943-44	24,288,877	13,464,371
1942-43	23,549,707	12,575,215
1941-42	19,905,741	10,206,778
1940-41	19,597,769	10,288,827
1939-40	17,749,764	6,781,367
1938-39	15,234,065	4,604,248

*Subject to revision.

Canadian Wheat Ground

Note: By crop years, Aug. 1 to July 31, in bushels. Source: Dominion Bureau of Statistics.

	Division— Eastern	Division— Western	Total Canada
1953-54	43,996,782	47,875,882	91,872,664
1952-53	49,639,695	57,145,947	106,785,642
1951-52	49,337,756	55,215,992	104,553,678
1950-51	51,354,764	55,348,769	106,703,533
1949-50	45,077,371	45,220,975	90,298,346
1948-49	46,212,946	44,457,370	90,670,316
1947-48	54,342,861	55,863,790	110,206,651
1946-47	62,153,514	65,331,410	127,484,924
1945-46	59,905,695	57,703,638	117,609,336
1944-45	54,626,517	54,837,871	109,464,388
1943-44	52,171,233	54,900,508	107,071,741
1942-43	52,042,152	52,765,649	104,807,801

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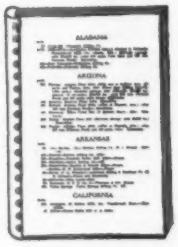

Published revisions of this list are based upon the cumulative record maintained by The Northwestern Miller and upon information derived from current general questionnaires to the industry. Mills are listed by state or provincial location and there is a general alphabetical index. Ownership is indicated and, where appropriate, the headquarters location of a milling group is given. Capacity of each U.S. mill is stated in sacks of 100 lb., of each Canadian mill in barrels of 196 lb., on the basis of 24-hour operation. Kind of power and grain storage capacity is also furnished when available.

Separate listings of flour blending plants, rye mills, dry corn mills, buckwheat mills and durum mills in the United States are appended to the list of wheat flour mills.

A List of Flour Brands in the United States and Canada is also maintained continuously and a revision of the printed list is published periodically. The list is compiled from information furnished by mills in response to questionnaires, from previously published lists and from current registration records furnished by the United States Patent Office.

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U.S. Production of Durum Products

Note: By six-month periods. **Source: USDA**

	Durum wheat ground, bu.	Sacks: Semolina produced	Sacks: Flour produced	Exports semolina, lb.
1954—				
July-December	3,578,320	3,849,264	1,920,028	1,004,950
January-June	5,119,546	3,950,300	2,637,714	2,131,400
1953—				
July-December	6,794,562	4,338,469	2,766,582	1,274,900
January-June	10,995,490	4,752,771	3,213,258	3,200,415
1952—				
July-December	12,672,106	5,345,541	†.....	‡2,620,178
January-June	12,531,677	5,292,630	†.....	2,913,467
1951—				
July-December	13,000,983	5,565,247	†.....	1,991,395
January-June	11,376,181	4,917,096	†.....	1,979,840
1950—				
July-December	11,961,459	5,201,407	†.....	2,971,334
January-June	9,967,224	4,371,220	†.....	2,816,609
1949—				
July-December	11,662,775	*5,074,859	†.....	2,774,541
January-June	10,231,603	4,457,925	†.....	1,113,139
1948—				
July-December	11,452,355	*5,012,265	†.....	2,321,216
January-June	14,181,830	6,354,943	†.....	19,706,136
1947—				
July-December	13,996,975	5,363,104	785,523	5,017,268
January-June	9,936,202	4,026,058	400,063	31,688,505
1946—				
July-December	11,429,936	*5,163,498	**.....	2,950
January-June	9,575,574	3,642,316	723,562	11,876,829
1945—				
July-December	12,663,562	4,171,084	1,315,576	4,282,975
January-June	13,260,803	4,266,212	1,400,803	16,851,523
1944—				
July-December	12,769,977	3,609,752	1,786,888	38,728,665
January-June	9,172,805	3,146,644	784,744	32,794,248
1943—				
July-December	11,235,744	3,613,644	1,199,717	20,846,215
January-June	12,742,102	3,981,044	1,466,562	1,351,985

*Mostly granular flour. †Included in semolina. ‡July through November. **Granular and flour listed in semolina total since most mills continued on an 80% extraction rate throughout period.

U.S. Flour Production at Principal Centers

Note: In sacks. **Source: The Northwestern Miller.**

Flour production in principal manufacturing areas by mills reporting to The Northwestern Miller, with relationships of production to capacity and to the total estimated output of all mills in the U.S. expressed in percentages:

Northwest	1954	1953	1952	1951	1950	1949
Minneapolis	11,948,700	13,578,063	14,386,966	13,718,511	13,367,010	13,066,517
Interior mills*	23,225,200	22,622,252	23,114,942	25,174,210	24,357,203	24,389,764
Totals	35,173,900	36,200,315	37,501,908	38,892,721	37,724,213	37,456,281
Southwest						
Kansas City	13,191,400	13,017,915	15,099,684	15,614,576	15,469,443	15,698,440
Wichita	•••	•••	•••	•••	•••	4,356,980
Salina	•••	•••	•••	•••	•••	4,421,461
Interior mills†	48,163,100	45,986,969	48,456,811	49,329,654	47,552,879	39,845,803
Totals	61,354,500	59,004,784	63,556,495	64,944,230	63,022,322	64,302,684
Buffalo	26,794,700	26,216,130	26,130,374	24,843,764	25,068,889	26,583,307
Central & S.E. states**	27,368,900	27,935,724	26,747,471	27,382,364	27,891,322	27,911,698
North Pacific Coast	15,262,000	13,819,175	14,783,032	15,010,487	13,420,071	13,972,087
Grand totals	165,954,100	163,176,128	168,719,280	171,073,566	167,126,817	170,246,057
Percentage of total U.S. production	74.8	73.4	73.9	75.1	74.6	73
Percentage of capacity operated per 5-day week	91	91	90	89	89	90

*Principal interior mills in Minnesota, including Duluth, St. Paul, North Dakota, Montana and Iowa. **Mills in Illinois, Ohio, Michigan, Indiana, Kentucky, North Carolina, Tennessee, Virginia, Georgia and eastern Missouri. †Mills outside of Kansas City. ***Wichita and Salina mills incuded in interior total.

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Largest U.S. Milling Companies

Milling companies which own and operate one or more mills in the U.S. with a combined daily capacity of 5,000 sacks or over. The list is compiled from The Northwestern Miller "List of Flour Mills" issued in 1953:

	No. of mills	Capacity
General Mills, Inc., Minneapolis, Minn.	17	135,600
Pillsbury Mills, Inc., Minneapolis, Minn.	10	89,300
International Milling Co., Minneapolis, Minn.	16	72,200
Russell-Miller Milling Co., Minneapolis, Minn.	10	49,200
Colorado Milling & Elevator Co., Denver, Colo.	20	45,900
Commander - Larabee Milling Co., Minneapolis, Minn.	6	38,640
Flour Mills of America, Inc., Kansas City, Mo.	6	37,490
National Biscuit Co., New York, N. Y.	3	27,600
Burrus Mills, Inc., Dallas, Texas	3	22,500
Rodney Milling Co., Kansas City, Mo.	4	19,400
King Midas Flour Mills, Minneapolis, Minn.	3	19,000
Dixie-Portland Flour Co., Memphis, Tenn.	3	17,000
Fisher Flouring Mills Co., Seattle, Wash.	1	15,000
Sunshine Biscuits, Inc., Milling Division, Grafton, Ohio	4	14,450
Standard Milling Co., Kansas City, Mo.	2	13,000
Centennial Flouring Mills Co., Seattle, Wash.	5	12,400
Kansas Milling Co., Wichita, Kansas	4	12,000
Acme-Evans Co., Inc., Indianapolis, Ind.	4	11,000
Midland Flour Milling Co., Kansas City, Mo.	3	10,600
Igleheart Bros., Division of General Foods Corp., Evansville, Ind.	3	10,200
Quaker Oats Co., Chicago, Ill.	4	9,800
Nebraska Consolidated Mills Co., Omaha, Neb.	4	9,200
Arrow Mills, Inc., Houston, Texas	2	8,400
Bay State Milling Co., Winona, Minn.	1	8,200
Ismert - Hincke Milling Co., Kansas City, Mo.	2	8,000
Montana Flour Mills Co., Great Falls, Mont.	4	7,800
Consolidated Flour Mills Co., Wichita, Kansas	3	7,200
B. A. Eckhart Milling Co., Chicago, Ill.	1	6,800
North Dakota Mill & Elevator, Grand Forks, N. D.	1	6,000
Atkinson Milling Co., Minneapolis, Minn.	1	6,000
Hunter Milling Co., Wellington, Kansas	2	5,200
Mennel Milling Co., Toledo, Ohio	1	5,000
Wichita Flour Mills Co., Wichita, Kansas	1	5,000
William Kelly Milling Co., Hutchinson, Kansas	2	5,000
Gooch Milling & Elevator Co., Lincoln, Neb.	1	5,000
J. Allen Smith & Co., Knoxville, Tenn.	1	5,000

Canadian Grain at Buffalo

Note: By calendar years, in bushels, 000's omitted. Source: Buffalo Corn Exchange.

	Wheat	Oats	Barley	Flaxs'd	Rye
1954..	4,535	18,031	6,188	...	2,541
1953..	7,219	45,882	2,508	...	703
1952..	27,111	31,084	1,534	...	2,520
1951..	21,878	13,942	1,008	...	1,484
1950..	12,428	6,080	1,001	...	1,943
1949..	11,343	10,146	455	...	174
1948..	7,211	15,089	1,378	507	1,874
1947..	14,345	971	...	...	...
1946..	5,438	2,339	2,411	...	1,303
1945..	82,191	36,881	1,734	660	285
1944..	79,039	47,235	3,974	5,914	3,329
1943..	60,804	26,917	16,511	7,673	24
1942..	30,908	8,216	705	2,417	268
1941..	45,754	2,129	2,256	380	1,061
1940..	24,427	7,437	288	55	1,476
1939..	56,337	3,489	6,144	283	...
1938..	14,899	...	890	366	20
1937..	12,635	...	565	696	...
1936..	56,040	73	2,559	...	790

U.S. Wheat Ground, Flour and Millfeed Production by Months*

Note: Year ending June 30. Based on reports from mills producing approximately 98% of the flour in the U.S. Source: Bureau of the Census, U.S. Department of Commerce.

WHEAT
Expressed in thousands of bushels

	Total	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June
1953-54.....	512,265	43,410	42,263	45,393	48,521	41,836	42,571	43,971	40,222	43,729	39,874	38,582	41,913
1952-53.....	522,862	44,530	44,698	45,901	49,088	43,458	44,107	45,968	39,436	42,902	40,103	40,904	41,767
1951-52.....	531,824	42,156	45,928	43,789	41,342	46,684	43,333	49,683	43,337	42,025	42,217	41,096	42,234
1950-51.....	533,018	44,175	49,099	43,807	43,719	42,901	45,546	51,519	43,558	45,820	39,919	43,007	39,948
1949-50.....	529,568	44,021	46,358	47,337	48,532	44,674	43,369	44,576	41,172	46,596	39,178	42,890	41,065
1948-49.....	598,353	56,202	57,907	54,291	55,891	52,892	52,986	51,576	45,598	46,685	39,402	39,782	46,141
1947-48.....	655,910	57,610	60,224	57,296	61,006	54,738	54,729	55,675	48,438	50,111	50,776	52,385	52,923
1946-47.....	695,136	48,480	52,530	55,350	61,330	58,880	61,920	65,230	57,742	63,944	57,395	56,310	56,025
1945-46.....	613,570	53,190	55,400	52,780	58,750	53,310	53,890	60,820	50,580	45,910	43,620	36,980	38,340
1944-45.....	601,405	43,647	48,108	47,895	50,947	49,490	47,918	52,180	47,700	52,170	51,500	55,490	54,360
1943-44.....	562,568	41,530	44,406	47,245	50,484	50,493	51,286	53,667	47,872	47,438	42,235	43,278	42,634
1942-43.....	540,339	43,138	42,571	46,361	49,628	45,054	47,928	51,800	45,918	49,694	42,167	36,790	39,290

FLOUR
Expressed in thousands of sacks

1953-54.....	220,683	18,747	18,204	19,469	20,799	17,972	18,355	18,962	17,361	18,871	17,217	16,685	18,041
1952-53.....	225,202	19,099	19,177	19,714	21,081	18,671	18,990	19,782	17,041	18,565	17,351	17,695	18,035
1951-52.....	227,207	18,026	19,653	18,795	21,055	19,876	18,386	21,212	18,519	17,920	18,065	17,579	18,101
1950-51.....	229,557	18,970	21,079	18,869	18,811	18,498	19,658	22,244	18,762	19,737	17,258	18,556	17,115
1949-50.....	227,246	18,889	19,826	20,248	20,787	19,100	18,584	19,165	17,705	20,043	16,864	18,360	17,675
1948-49.....	260,254	24,403	25,171	23,619	24,380	23,099	22,695	22,498	19,849	20,271	17,084	17,225	19,990
1947-48.....	286,398	25,170	26,200	25,039	26,594	23,916	23,713	24,398	21,196	21,970	22,284	22,880	23,038
1946-47.....	304,797	22,530	24,360	24,170	26,610	25,510	26,750	28,189	24,965	27,701	24,955	24,641	24,416
1945-46.....	269,010	22,630	23,600	22,590	25,230	22,870	23,120	26,140	26,040	21,370	20,290	17,240	17,890
1944-45.....	258,386	18,812	20,744	20,656	21,952	21,294	20,568	22,370	20,480	22,430	22,070	23,770	23,240
1943-44.....	242,394	17,911	19,086	20,399	21,787	21,776	22,086	23,064	20,603	20,434	18,239	18,654	18,355
1942-43.....	232,900	18,470	18,252	19,933	21,366	19,369	20,663	22,397	19,846	21,448	18,208	15,935	17,013

MILLFEED
Expressed in tons (000's omitted)

1953-54.....	4,416.1	371.6	365.2	394.1	424.4	362.7	366.3	380.1	344.6	376.6	339.2	327.8	363.5
1952-53.....	4,496.3	387.6	386.2	396.8	424.4	377.2	380.1	397.7	336.6	363.9	341.9	347.4	356.5
1951-52.....	4,625.7	364.1	395.8	377.9	456.4	403.2	375.6	429.2	376.2	364.2	362.8	352.8	367.5
1950-51.....	4,566.9	382.7	422.1	374.3	374.8	377.0	389.9	441.8	372.3	385.9	337.8	367.1	341.8
1949-50.....	4,580.0	383.0	423.0	375.0	425.0	388.0	378.0	386.0	357.0	403.0	338.0	370.0	354.0
1948-49.....	4,795.0	380.0	405.0	413.0	466.0	438.0	451.0	428.0	380.0	392.0	334.0	338.0	390.0
1947-48.....	5,420.0	471.0	482.0	455.0	511.0	454.0	463.0	465.0	406.0	420.0	426.0	435.0	442.0
1946-47.....	6,054.0	477.0	503.0	479.0	522.0	504.0	533.0	561.0	496.0	551.0	489.0	470.0	469.0
1945-46.....	4,781.0	328.0	363.0	461.0	510.0	465.0	470.0	530.0	527.0	319.0	298.0	252.0	258.0
1944-45.....	5,437.0	470.0	486.0	460.0	439.0	428.0	417.0	454.0	415.0	454.0	450.0	485.0	479.0
1943-44.....	4,905.0	375.0	412.0	411.0	433.0	435.0	443.0	466.0	413.0	410.0	362.0	376.0	369.0
1942-43.....	4,629.0	355.0	383.0	404.0	425.0	387.0	410.0	440.0	392.0	425.0	360.0	314.0	334.0

*The above figures have been revised from those published in previous years to agree with the recent revisions of the Bureau of the Census, U.S. Department of Commerce. A complete explanation of the census revisions was published in the Sept. 12, 1950, edition of The Northwestern Miller on page 12.

Metric System Equivalents

United States equivalents of the more important metric units:

LENGTH

1 inch ..... 2.54 centimeters
1 foot ..... 30.48 centimeters
1 yard ..... 91.44 centimeters
1 mile ..... 1.6093 kilometers
1 centimeter ..... .39 inch
1 meter ..... 3.28083 feet
1 kilometer ..... 3,280.83 feet

AREA

1 square foot ..... 929.0341 sq centimeters
1 square yard ..... .83613 sq meters
1 acre ..... .404687 hectares
1 square mile ..... 258.9998 hectares
1 square centimeter. .154997 sq inches
1 square meter ... 1.19585 sq yards
1 hectare ..... 2.47104 acres

WEIGHT

1 pound ..... .45359 kilograms
1 short ton ..... .90718486 metric tons
1 kilogram ..... 2.204622 pounds
1 metric ton ..... 1.1023112 short tons

To convert metric tons into bushels of wheat (60 lbs), multiply the number of tons by 36.7.

To convert metric tons into barrels of flour (196 lbs), multiply the number of tons by 11.2.

To convert metric tons into bushels of flaxseed (56 lbs), multiply the number of tons by 39.3.

To convert metric tons into bushels of oats (32 lbs), multiply the number of tons by 68.9.

To convert metric tons into bushels of corn (56 lbs), multiply the number of tons by 39.3.

To convert metric tons into bushels of barley (48 lbs), multiply the number of tons by 45.9.

To convert hectares into acres, multiply the number of hectares by 2.471.

A quintal being one tenth of a metric ton, to convert quintals into bushels, multiply the number of quintals by one tenth of the figures given above for tons: 3.67 for wheat, 3.93 for flaxseed, 6.89 for oats, and 3.93 for corn.

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Wheat Flour Production at Principal Centers in the U.S.

Source: The Northwestern Miller. **Note: By calendar years, in sacks.**

	Buffalo	Kansas City	Minneapolis	Toledo	St. Louis	Wichita	Salina	Seattle	Tacoma	Portland
1954	26,794,700	13,191,400	11,948,700	.....	1,464,321	.....	.....	.....	.....	5,756,526
1953	26,216,130	13,017,915	13,578,063	.....	2,167,385	.....	.....	.....	.....	5,128,254
1952	24,085,458	16,099,684	14,386,966	.....	2,326,456	.....	.....	3,497,347	2,574,529	2,895,733
1951	24,843,764	15,614,576	13,718,511	5,608,545	2,532,897	.....	.....	3,634,252	2,433,357	3,137,399
1950	25,068,859	16,469,443	13,367,010	5,821,500	2,304,852	4,518,583	4,369,051	3,553,296	2,358,362	2,198,215
1949	26,583,307	16,698,440	13,066,517	5,842,500	2,287,666	4,356,980	4,421,461	3,623,910	2,590,970	2,450,804
1948	26,817,356	18,371,114	13,844,079	5,977,600	2,310,509	5,631,758	4,894,331	4,272,983	3,065,674	2,780,801
1947	27,434,470	18,983,333	13,699,256	5,617,950	3,090,696	5,674,994	4,783,475	4,329,385	3,276,658	3,737,573
1946	25,983,050	15,856,116	16,431,301	5,458,730	3,620,174	5,194,860	3,771,633	3,465,478	5,060,788	3,370,520
1945	26,341,479	15,364,136	16,449,807	5,974,296	3,581,400	5,088,353	4,136,513	3,855,320	4,596,819	3,776,628
1944	24,849,936	12,756,573	14,783,589	6,106,618	3,265,973	4,630,485	4,672,630	3,537,570	3,999,483	3,381,048
1943	23,990,365	13,717,116	14,436,850	6,067,180	3,286,090	4,571,835	4,699,575	3,575,985	3,840,851	3,535,605
1942	20,408,663	12,692,784	11,693,135	5,581,100	1,551,236	4,209,876	4,517,145	2,759,547	3,356,163	3,336,573
1941	19,953,137	13,410,079	11,019,724	4,418,410	1,395,079	3,892,486	4,479,219	2,522,493	3,843,329	3,364,663
1940	19,214,531	12,176,833	10,273,454	3,991,207	1,501,448	3,479,990	4,511,173	2,608,094	3,767,502	3,704,618
1939	19,969,115	14,202,389	10,896,510	3,932,936	1,737,265	4,010,309	5,165,547	2,847,606	3,935,921	4,199,025
1938	19,992,825	14,659,893	12,438,575	4,059,699	1,520,960	3,775,971	4,604,761	2,365,957	3,826,567	3,928,267
1937	20,093,542	14,371,606	11,135,844	3,987,032	1,387,511	4,696,446	4,422,767	2,297,902	4,009,923	3,645,861
1936	20,433,657	12,157,376	12,647,227	4,106,887	1,861,969	4,239,888	4,143,148	2,469,367	3,362,699	3,622,176
1935	18,884,796	11,398,078	12,006,873	3,428,506	1,655,637	3,710,456	3,636,151	2,118,546	4,160,810	3,228,008
1934	18,865,071	11,479,095	13,880,387	3,817,325	2,006,256	3,526,152	3,463,351	2,390,338	3,622,562	2,239,855
1933	19,171,311	11,938,005	14,275,158	3,940,002	2,162,272	4,066,142	3,228,831	2,025,909	2,823,304	2,206,607
1932	19,186,573	13,881,269	14,165,287	4,369,977	2,100,720	4,867,776	3,728,165	2,337,766	2,528,351	2,511,803
1931	21,709,550	14,771,620	17,878,279	4,309,364	2,799,370	3,246,883	4,291,042	2,559,456	3,693,261	2,370,771
1930	24,049,043	15,239,265	21,162,500	4,559,891	4,021,528	3,660,800	3,743,279	2,512,647	3,869,632	2,258,187
1929	19,860,619	16,538,947	21,161,395	4,528,406	3,857,619	3,674,485	3,906,466	2,888,730	4,408,126	2,577,400
1928	19,717,657	14,827,964	22,997,758	3,821,869	3,220,084	3,568,253	3,794,213	2,998,980	3,961,934	2,315,052
1927	19,662,355	14,467,742	22,618,500	4,135,698	3,751,840	3,905,594	3,179,922	2,582,959	3,377,364	2,505,243
1926	13,956,785	12,111,299	23,114,786	3,922,646	3,323,513	4,023,660	2,859,197	2,292,890	2,907,546	2,491,460
1925	18,546,639	10,604,999	23,636,732	3,430,098	2,442,054	3,183,869	2,584,064	2,361,445	2,270,950	2,578,598
1924	13,697,674	10,227,321	22,891,095	3,564,554	2,500,223	4,034,903	2,210,219	2,862,563	2,527,567	3,964,474
1923	12,666,639	9,578,079	26,437,382	3,175,298	3,445,831	3,654,461	1,910,873	3,302,713	3,044,147	4,146,066
1922	13,137,541	9,227,609	30,659,094	3,646,000	2,975,362	3,757,376	3,398,891	2,884,048	2,852,882	3,873,107
1921	13,118,780	7,772,907	29,148,630	3,277,667	3,951,299	.....	3,278,055	2,093,060	2,902,993	3,183,069
1920	10,276,986	7,050,602	29,406,195	1,822,663	2,824,719	.....	.....	2,650,547	2,728,613	2,744,974
1919	13,109,048	7,111,176	34,301,744	3,054,778	3,524,664	.....	.....	3,036,520	3,305,426	2,586,936
1918	11,657,512	4,840,763	28,251,107	2,191,109	3,740,635	.....	.....	2,529,160	2,809,156	4,845,320
1917	11,055,145	6,595,792	34,517,256	2,397,860	3,173,742	.....	.....	2,179,328	2,798,372	1,793,988
1916	11,536,795	6,166,811	36,341,634	3,062,892	3,431,346	.....	.....	2,134,166	2,800,103	1,777,032
1915	12,917,086	5,616,302	35,454,822	3,855,230	3,289,787	.....	.....	1,746,083	2,281,401	.....
1914	11,208,358	4,658,606	34,827,789	2,907,660	3,074,995	.....	.....	1,996,838	2,671,131	.....
1913	10,011,386	4,497,449	34,640,501	2,562,112	3,032,052	.....	.....	.....	.....	.....

International Trade in Wheat and Flour

Note: By crop years, ending July 31, in bushels, 000,000's omitted. Source: Food Research Institute, Stanford University.

	Net exports of net-exporting countries										Net imports of Europe ex-Danube		
Year—Aug.-July	Total	United States	Canada	Australia	Argentina	Lower Danube	French N. Africa	India	Others ex-Russia	U.S.S.R.	Total	British Isles	Continent
1953-54*....	780	215	235	66	110	..	..	..	..	..	364	139	225
1952-53*....	920	301	386	107	32	..	..	..	..	..	432	182	250
1951-52*....	990	447	356	96	24	..	..	..	..	..	513	193	320
1950-51*....	925	358	241	132	103	..	..	..	..	..	456	171	285
1949-50*....	815	301	225	113	93	..	..	..	..	..	452	172	280
1948-49*....	990	506	232	118	64	..	..	..	..	..	620	220	400
1947-48*....	940	491	194	109	97	..	..	..	..	..	673	203	470
1946-47*....	780	406	239	48	63	..	..	..	..	..	492	192	300
1945-46*....	870	394	343	41	70	..	..	..	..	..	..	164	..
1944-45*....	625	108	343	55	105	..	..	..	..	..	..	157	..
1943-44*....	535	(91)	343	65	98	25	0	..	3	..	231	141	90
1942-43*....	370	32	216	38	69	8	3	..	4	..	217	162	55
1941-42*....	426	25	226	41	83	20	16	6	5	..	242	182	60
1940-41*....	485	31	231	76	96	18	15	9	10	8	336	256	80
1939-40*....	620	45	192	86	179	87	17	1	13	..	449	244	205
1938-39.....	643	103	158	96	122	55	10	(1)	35	34	428	247	181

Figures in parentheses represent net imports not included in totals. *Approximations except for U.S. (July-June years), Canada, Australia, Argentina and British Isles.

Manufacturers of

Spring Wheat Flour

ST. CLOUD MILLING CO.

SALES OFFICE: 580 GRAIN EXCHANGE
MINNEAPOLIS
Telephone: FI. 4574

MILLS AT ST. CLOUD, MINNESOTA

Wheat Flour Subsidy Program

Wheat flour exports (as well as wheat exports) continue to be subsidized during 1954-55 as the U.S. government carries out its obligations under the International Wheat Agreement. The subsidy payments make up the difference between the higher domestic wheat price and the maximum IWA price at which the U.S. agreed to provide importing participants in the pact a specified quantity of wheat and/or flour. Rates of payment, announced daily, Mondays through Fridays, in general varied with wheat market fluctuations.

The subsidy program operates under provisions set forth in the "Terms and Conditions of the 1954-55 Commodity Credit Corp. Wheat and Wheat Flour Export Program," which superseded the terms and conditions governing the previous year's program. The export program terms also set procedures for reporting sales in order to receive confirmation from CCC and establish subsidy eligibility on sales.

Separate payment rates are announced for wheat and for flour. The rates, as announced, apply to patents and straight grades up to 72% extraction, clears, semolina and farina. A conversion factor of .931 applies to the regular rate for 80% extraction flour and a factor of .717 to whole wheat flour.

The subsidy program to apply to export sales of wheat and flour outside the IWA, instituted in December, 1953, continued. Regulations governing these exports, made exclusively from wheat purchased from Commodity Credit Corp. stocks, are Gr-212 and Gr-261 for wheat and Gr-212 and Gr-262 for flour. The export allowances available under this program have been identical with the subsidy rates announced for IWA exports.

Rates for flour ranged from $2.12 sack to $2.23 sack at the various port areas on a typical day in March, 1955. On the same day the wheat subsidy rates ranged from 60¢ to 74¢ bu. at the different ports.

Lake Shipments

Note: From Duluth-Superior, by calendar years, in bushels, 000's omitted.

	DOMESTIC GRAIN					Flax-
	Wheat	Corn	Oats	Rye	B'l'y	seed
1954.	68,665	19,866	4,283	943	7,522	14,598
1953.	69,327	15,041	...	...	2,361	3,911
1952.	69 444	3,973	193	...	5,986	3,225
1951.	102,716	4,067	2,663	417	2,890	6,262
1950.	81,904	19,036	3,254	261	4,373	8,553
1949.	100,523	14,867	11,390	710	11,047	4,516

Costs, Wages, Value of Grain-Mill Products Industry by Divisions & States

Note: General statistics for flour milling, blended and prepared flour, cereal preparations and prepared animal feeds by divisions and states.

Source: U.S. Bureau of the Census

(Money figures and man-hours in thousands)

Industry, division and state	Number of establishments	All employees: Number (average for the year)	All employees: Salaries and wages, total	Production & related workers: Number (average for the year)	Production & related workers: Man-hours, total	Production & related workers: Wages, total	Value added by manufacture	Cost of materials, fuel, electricity and contract work	Expenditures for new plant and equipment	Value of products shipped
Flour and meal, total*	**1,243**	**39,458**	**$118,940**	**30,722**	**74,412**	**$85,680**	**$410,468**	**$2,101,075**	**$2,511,543**	**$27,784**
Northeast	153	3,373	10,957	2,731	6,424	8,339	52,280	241,105	293,385	981
New York	40	1,577	5,928	2,067	4,803	6,842	47,341	211,101	258,442	665
East North Central	222	6,681	20,129	5,130	12,050	14,061	60,498	303,812	364,310	12,843
Illinois	48	2,876	8,836	2,246	5,247	6,453	33,721	138,434	172,155	7,750
Michigan	47	889	2,717	650	1,490	1,796	5,866	33,690	39,556	3,082
Wisconsin	17	535	1,485	424	951	1,072	4,564	24,110	28,674	273
West North Central	236	13,667	43,010	10,844	27,101	31,713	157,328	876,798	1,034,126	6,660
Minnesota	53	3,696	12,478	3,010	7,815	9,494	40,021	270,872	310,894	1,735
Missouri	53	3,416	9,911	2,750	6,649	7,858	36,090	185,711	221,801	2,140
North Dakota	9	498	1,558	385	1,027	1,190	7,326	31,469	38,795	197
Nebraska	30	1,257	4,001	843	1,969	2,246	12,992	60,903	73,895	404
Kansas	69	4,335	13,836	3,475	8,689	9,896	55,623	302,283	357,906	2,090
South Atlantic	273	2,859	6,101	2,299	5,166	4,140	18,088	83,352	101,440	803
Maryland	29	483	1,226	360	879	841	6,996	21,235	28,231	114
East South Central	165	2,442	5,420	2,004	4,853	4,086	18,437	81,434	99,871	1,139
Tennessee	69	1,213	2,656	1,001	2,331	1,954	8,882	43,083	51,965	281
West South Central	75	4,970	14,743	3,666	8,958	9,713	50,209	245,696	295,905	1,919
Texas	37	3,033	9,113	2,194	5,361	5,830	29,955	154,377	184,332	1,134
Mountain	73	2,109	6,587	1,554	4,026	4,769	17,753	99,776	117,529	1,023
Montana	13	415	1,328	319	807	1,035	3,848	23,270	27,118	224
Idaho	13	331	958	260	686	714	2,903	13,890	16,793	129
Utah	21	491	1,615	318	810	1,053	4,296	24,168	28,464	278
Pacific	47	3,357	11,993	2,494	5,834	8,859	35,875	169,102	204,977	2,416
Washington	17	1,575	5,887	1,150	2,717	4,340	16,253	84,452	100,705	1,209
Oregon	17	895	3,192	673	1,567	2,347	11,674	43,886	55,560	450
California	13	887	2,914	671	1,550	2,172	7,948	40,764	48,712	757
Blended and prepared flour, total*	**122**	**3,064**	**8,807**	**2,312**	**4,557**	**5,110**	**23,368**	**52,155**	**75,523**	**1,856**
Northeast	26	1,382	3,813	1,100	1,770	2,554	10,621	20,178	30,799	880
East North Central	25	457	2,074	266	630	704	4,604	9,526	14,130	134
Ohio	5	54	160	44	95	114	607	1,414	2,021	10
West North Central	9	99	416	61	127	135	1,159	2,253	3,413	90
South	40	829	1,705	670	1,579	1,210	4,412	15,498	19,910	350
Texas	9	158	327	137	299	238	802	2,048	2,850	24
West	22	297	799	215	451	507	2,572	4,700	7,272	502
Cereal preparations, total*	**64**	**11,276**	**30,689**	**9,496**	**19,540**	**25,160**	**130,188**	**154,478**	**284,666**	**3,842**
New England	5	111	300	75	131	166	708	722	1,430	20
Middle Atlantic	12	1,903	5,390	1,646	3,645	4,437	21,825	21,276	43,101	740
East North Central	14	6,670	18,049	5,582	10,939	15,156	79,743	74,404	154,147	2,483
West North Central	11	2,275	6,129	1,943	4,265	4,832	24,477	53,018	77,495	496
South	8	102	228	77	201	158	1,149	2,065	3,214	56
West	14	215	593	173	359	411	2,286	2,993	5,279	47
Prepared animal feeds, total*	**2,689**	**55,347**	**$143,301**	**40,266**	**92,751**	**$93,579**	**$394,236**	**$1,736,027**	**$2,130,263**	**$34,791**
New England	65	1,870	4,978	1,435	3,186	3,461	15,200	88,900	104,100	1,435
Middle Atlantic	378	8,298	24,813	6,104	14,104	16,810	72,327	382,613	454,940	3,899
New York	147	5,056	16,528	3,654	8,334	11,146	51,032	280,409	331,441	2,824
New Jersey	55	932	2,456	686	1,565	1,680	6,906	25,385	32,291	377
Pennsylvania	176	2,310	5,834	1,764	4,205	3,984	14,389	76,819	91,208	698
East North Central	551	11,828	32,547	7,219	16,163	17,910	81,239	357,748	438,987	7,041
Ohio	137	3,107	8,537	2,356	5,387	6,061	23,853	132,046	155,899	1,536
Indiana	126	1,862	4,651	1,311	2,953	3,253	11,408	65,416	76,824	1,142
Illinois	127	5,407	15,192	2,449	5,229	5,892	36,202	113,940	150,142	3,248
West North Central	694	10,061	24,668	7,486	17,990	17,214	76,118	256,389	332,507	8,091
Minnesota	153	1,747	4,510	1,317	2,966	3,117	16,112	56,923	73,035	1,422
Iowa	151	2,091	4,995	1,363	3,255	3,100	17,581	48,632	66,213	1,208
Missouri	114	2,725	6,633	2,018	4,799	4,542	22,188	89,321	111,509	2,065
South Atlantic	234	5,732	12,562	4,417	10,339	8,230	33,570	162,926	196,496	3,082
Virginia	49	1,095	2,346	772	1,806	1,411	5,813	31,650	37,463	721
North Carolina	57	1,395	2,870	1,153	2,645	2,002	8,227	37,739	45,966	498
South Carolina	16	314	608	259	615	429	1,692	8,500	10,192	76
Georgia	33	915	1,867	726	1,678	1,164	5,495	22,737	28,232	367
East South Central	110	4,173	9,085	3,322	7,803	6,050	27,345	135,502	162,847	2,681
Kentucky	28	584	1,396	475	1,098	1,013	3,341	19,439	22,780	216
Tennessee	53	2,124	4,289	1,609	3,692	2,582	15,534	66,714	82,248	1,022
Alabama	17	917	2,345	793	1,992	1,802	4,704	33,022	37,726	631
Mississippi	12	548	1,055	445	1,021	653	3,766	16,327	20,093	812
West South Central	207	5,175	11,386	4,038	9,419	7,596	28,664	127,905	156,569	2,297
Arkansas	35	594	1,163	461	1,010	725	3,244	19,382	22,626	356
Texas	114	3,225	7,145	2,425	5,759	4,727	18,591	81,386	99,977	1,427
Louisiana	141	1,758	4,289	1,464	3,474	3,211	12,511	33,941	46,452	1,283
Mountain	19	195	482	159	369	360	1,324	5,217	6,541	162
Idaho	11	117	234	102	226	191	905	781	1,689	16
New Mexico	300	6,452	18,968	4,781	10,273	13,097	47,262	190,103	237,365	4,932
Pacific	205	4,828	14,424	3,512	7,426	9,719	37,711	148,938	186,649	3,767
California										

*For each producing state not shown separately in the table there are shown below the number of establishments and, in parentheses, the number of employees for states represented by three or more companies, when possible.

Flour and meal: Northeast, New Hampshire, 1; Rhode Island, 2; Connecticut, 2; New Jersey, 1; Pennsylvania, 105 (723); **East North Central,** Ohio, 66 (1,147); Indiana, 44 (1,234); **West North Central,** Iowa, 16 (400); South Dakota, 6 (65); **South Atlantic,** Delaware, 4 (16); District of Columbia, 1; Virginia, 103 (825); West Virginia, 7 (113); North Carolina, 76 (688); South Carolina, 23 (162); Georgia, 28 (455); Florida, 2; **East South Central,** Kentucky, 76 (989); Alabama, 18; Mississippi, 2; **West South Central,** Arkansas, 5; Louisiana, 1; Oklahoma, 32 (1,837); **Mountain,** Wyoming, 2; Colorado, 13 (639); New Mexico, 7; Arizona, 4 (54).

Blended and prepared flour: Northeast, Massachusetts, 2; New York, 17 (1,006); New Jersey, 1; Pennsylvania, 6 (149); **East North Central,** Indiana, 1; Illinois, 15 (382); Michigan, 3; Wisconsin, 1; **West North Central,** Minnesota, 1; Iowa, 1; Missouri, 6 (72); Nebraska, 1; **South,** Maryland, 2; Virginia, 2; North Carolina, 3 (11); South Carolina, 2; Georgia, 3 (23); Florida, 1; Kentucky, 5 (281); Tennessee, 9 (267); Alabama, 2; Mississippi, 2; **West,** Colorado, 1; Arizona, 1; Utah, 1; Washington, 1; California, 18 (270).

Cereal preparations: New England, Vermont, 1; **Massachusetts,** 4; **Middle Atlantic,** New York, 8 (1,543); New Jersey, 1; Pennsylvania, 3; **East North Central,** Ohio, 4 (883); Illinois, 5 (1,019); **Michigan,** 5 (4,768); **West North Central,** Minnesota, 4 (257); Iowa, 2; Missouri, 2; Nebraska, 2; Kansas, 1; **South,** North Carolina, 1; South Carolina, 1; Kentucky, 2; Tennessee, 1; Arkansas, 1; Louisiana, 1; Oklahoma, 1; **West,** Montana, 1; Colorado, 2; Arizona, 1; Washington, 2; Oregon, 2; California, 6 (107).

Prepared animal feeds: New England, Maine, 4 (61); New Hampshire, 6 (141); Vermont, 17 (628); Massachusetts, 27 (822); Connecticut, 11 (218); **East North Central,** Michigan, 68 (518); Wisconsin, 93 (934); **West North Central,** North Dakota, 12 (31); South Dakota, 16 (141); Nebraska, 111 (1,441); Kansas, 137 (1,885); **South Atlantic,** Delaware, 12 (324); Maryland, 33 (657); West Virginia, 10 (241); Florida, 24 (791); **West South Central,** Louisiana, 14 (675); Oklahoma, 44 (681); **Mountain,** Montana, 9 (91); Wyoming, 2; Colorado, 60 (705); Arizona, 13 (362); Utah, 23 (246); Nevada, 4; **Pacific,** Washington.

State Agricultural Experiment Stations

Alabama—Agricultural Experiment Station, Alabama Polytechnic Institute, Auburn, Ala.
Alaska — Agricultural Experiment Station, University of Alaska, College, Alaska.
Arizona—Agricultural Experiment Station, University of Arizona, Tucson, Ariz.
Arkansas—Agricultural Experiment Station, University of Arkansas, Fayetteville, Ark.
California—Agricultural Experiment Station, University of California, Berkeley, Cal.
California—Agricultural Experiment Station, University of California, Davis, Cal.
California—Agricultural Experiment Station, University of California, Riverside, Cal.
California—Agricultural Experiment Station, University of California, Los Angeles, Cal.
Colorado—Agricultural Experiment Station, Colorado State College of Agriculture, Fort Collins, Colo.
Connecticut—Agricultural Experiment Station, University of Connecticut, Storrs, Conn.
Connecticut — Connecticut (State) Agricultural Experiment Station, New Haven, Conn.
Delaware—Agricultural Experiment Station, University of Delaware, Newark, Del.
Florida—Agricultural Experiment Station, University of Florida, Gainesville, Fla.
Georgia—Agricultural Experiment Station, University of Georgia, Athens, Ga.
Georgia—Georgia Agricultural Experiment Station, Experiment, Ga.
Georgia—Georgia Coastal Plain Experiment Station, Tifton, Ga.
Hawaii — Agricultural Extension Service, University of Hawaii, Honolulu, Hawaii.
Idaho — Agricultural Experiment Station, University of Idaho, Moscow, Idaho.
Illinois — Agricultural Experiment Station, University of Illinois, Urbana, Ill.
Indiana—Agricultural Experiment Station, Purdue University, La Fayette, Ind.
Iowa—Agricultural Experiment Station, Iowa State College of Agriculture, Ames, Iowa.
Kansas — Agricultural Experiment Station, Kansas State College, Manhattan, Kansas.
Kentucky—Agricultural Experiment Station, University of Kentucky, Lexington, Ky.
Louisiana—Agricultural Experiment Station, Louisiana State University, Baton Rouge, La.
Maine — Agricultural Experiment Station, University of Maine, Orono, Maine.
Maryland—Agricultural Experiment Station, University of Maryland, College Park, Md.
Massachusetts—Agricultural Experiment Station, Massachusetts State College, Amherst, Mass.
Michigan—Agricultural Experiment Station, Michigan State College, East Lansing, Mich.
Minnesota—Agricultural Experiment Station, University of Minnesota, St. Paul, Minn.
Mississippi — Agricultural Experiment Station, Mississippi State College, State College, Miss.
Missouri—Agricultural Experiment Station, University of Missouri, Columbia, Mo.
Montana—Agricultural Experiment Station, Montana State College, Bozeman, Mont.
Nebraska—Agricultural Experiment Station, University of Nebraska, Lincoln, Neb.
Nevada—Agricultural Experiment Station, University of Nevada, Reno, Nev.
New Hampshire — Agricultural Experiment Station, University of New Hampshire, Durham, N. H.
New Jersey—Agricultural Experiment Station, Rutgers University, New Brunswick, N.J.
New Mexico—Agricultural Experiment Station, New Mexico College of Agriculture, State College, N.M.
New York—Agricultural Experiment Station, Cornell University, Ithaca, N.Y.
New York—N. Y. State Agricultural Experiment Station, Geneva, N.Y.
North Carolina — Agricultural Experiment Station, University of North Carolina, Raleigh, N.C.
North Dakota—Agricultural Experiment Station, North Dakota Agricultural College, Fargo, N.D.
Ohio—Agricultural Experiment Station, Ohio State University, Columbus, Ohio.
Ohio—Ohio Agricultural Experiment Station, Wooster, Ohio.
Oklahoma—Agricultural Experiment Station, Oklahoma A. & M. College, Stillwater, Okla.
Oregon — Agricultural Experiment Station, Oregon State College, Corvallis, Ore.
Pennsylvania—Agricultural Experiment Station, Pennsylvania State College, State College, Pa.
Puerto Rico—Extension Service, University of Puerto Rico, Rio Piedras.
Puerto Rico — Federal Experiment Station, Mayaguez, Puerto Rico.
Rhode Island—Agricultural Experiment Station, Rhode Island State College, Kingston, R.I.
South Carolina — Agricultural Experiment Station, Clemson Agricultural College, Clemson, S.C.
South Dakota—Agricultural Experiment Station, South Dakota State College, Brookings, S.D.
Tennessee—Agricultural Experiment Station, University of Tennessee, Knoxville, Tenn.
Texas—Agricultural Experiment Station, A. & M. College of Texas, College Station, Texas.
Utah—Agricultural Experiment Station, Utah State Agricultural College, Logan, Utah.
Vermont—Agricultural Experiment Station, University of Vermont, Burlington, Vt.
Virginia—Agricultural Experiment Station, Virginia Agricultural College, Blacksburg, Va.
Washington—Agricultural Experiment Station, State College of Washington, Pullman, Wash.
West Virginia—Agricultural Experiment Station, West Virginia University, Morgantown, W. Va.
Wisconsin—Agricultural Experiment Station, University of Wisconsin, Madison, Wis.
Wyoming—Agricultural Experiment Station, University of Wyoming, Laramie, Wyo.

U.S. Mean Precipitation in the Wheat Belt

Note: January through November values are state means for the period of record through 1954, values for December extended through 1953. Source: U.S. Dept. of Commerce, Weather Bureau.

State	Yr. record began	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Minn.	1891	.75	.75	1.20	2.05	3.15	4.09	3.32	3.28	2.82	1.84	1.18	.76	25.18
N. D.	1892	.48	.47	.78	1.42	2.27	3.51	2.47	2.07	1.53	1.04	.61	.48	17.13
S. D.	1890	.55	.55	1.11	2.07	2.85	3.60	2.42	2.12	1.55	1.21	.66	.51	19.19
Mont.	1895	.73	.61	.86	1.14	1.99	2.80	1.39	1.11	1.28	.99	.78	.75	14.43
Kansas ..	1887	.66	.98	1.41	2.55	3.77	3.97	2.95	3.11	2.93	2.03	1.39	.85	26.60
Okla.	1892	1.55	1.61	2.28	3.52	4.82	4.01	2.79	2.92	3.15	2.96	2.03	1.73	33.37
Texas	1888	1.60	1.56	1.77	2.50	3.41	2.79	2.50	2.35	2.89	2.45	1.84	2.04	27.70
Neb.	1876	.55	.69	1.13	2.38	3.43	3.80	3.09	2.72	2.10	1.47	.77	.71	22.84
Colo.	1888	.93	1.01	1.36	1.73	1.75	1.45	2.02	1.90	1.39	1.23	.83	.94	16.54
Iowa	1873	1.01	1.09	1.69	2.61	3.95	4.54	3.61	3.76	4.01	2.29	1.72	1.09	31.37
Ill.	1890	2.33	1.92	3.20	3.55	4.13	4.02	3.23	3.36	3.64	2.67	2.62	2.15	36.82
Mo.	1888	2.31	2.10	3.27	4.04	4.78	4.80	3.54	3.78	4.00	2.94	2.73	2.18	40.47
Ohio	1883	2.97	2.37	3.46	3.25	3.73	3.94	3.77	3.33	2.90	2.50	2.69	2.71	37.62
Ind.	1887	3.00	2.40	3.72	3.59	4.10	3.96	3.33	3.32	3.28	2.77	3.02	2.72	39.21

"BLODGETT'S" RYE

"ROCK RIVER" RYE

"OLD TIMES" BUCKWHEAT

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Michigan Soft Wheat

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and

"Sunlite" Flours

Complete Grain and Feed Service

STORAGE FACILITIES FOR BULK GRAIN AND SACKED COMMODITIES

U.S. Exports of Wheat Flour to Countries of Destination for 1946-54

Note: In sacks, 000's omitted. Included are: Flour made entirely from U.S. wheat; other wheat flour (including flour made from wheat imported in bond), and exports under the Army Civilian Supply Program for 1948 and 1949. Not included are semolina, shipments to the U.S. Armed Forces and U.S. government agencies and shipments between continental U.S. and the U.S. territories and possessions. Source: Bureau of the Census, U.S. Department of Commerce.

	1946		1947		1948		1949		1950		1951		1952		1953		1954	
	U.S.	Other	U.S.	Other	U.S.	Other	U.S.	Other	U.S.	Other	U.S.	Other	U.S.	Other	U.S.	Other	U.S.	Other
Afghanistan	231	..	..	..	..	..	..	..	..	..	1	..	..	..	112	..	..	..
Albania	13	..	..	..	1	..	..	..	32	..	..	..	..	..	..	..	..	..
Algeria	..	..	107	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Austria	793	..	1,755	..	2,868	..	1,419	..	839	..	..	..	173	..	..	..	..	..
Azores & Madeira	..	21	52	..	45	..	16	22	2	20	..	..	..	..	4	9	1	3
Barbados	5	11	34	..	37	..	40	..	32	..	27	..	58	..	25	..	36	1
Belgian Congo	19	60	72	31	125	7	75	32	13	165	94	121	130	..	89	133	122	35
Belgium	3,197	107	3,421	..	221	..	1	..	13	..	1	..	..	..	3	..	6	..
Bermuda	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Bolivia	359	3	405	48	306	23	333	3	487	5	212	1	165	14	245	56	..	..
Brazil	3,768	960	8,293	95	7,270	29	1,289	26	33	4	354	4	193	20	91	..	715	..
British Guiana	..	..	..	..	..	..	..	..	74	15	60	..	79	..	33	..	..	..
Br. Honduras	37	6	51	..	47	..	59	1	60	4	46	6	55	..	53	1	314	..
Br. West Africa*	31	90	197	62	214	50	352	271	18	674	293	392	899	98	489	294	71	..
Oth. Br. W. Indies†	1	..	..	..	1	..	3	..	1	..	..	..	..	..	3	..	645	83
Br. South Africa‖	..	..	275	..	19	..	3	..	..	..	..	..	..	..	6	1	..	..
Canada (Newfoundl'd and Labrador)	47	29	103	4	88	..	25	..	11	56	51	50	82	150	95	253	57	79
Canary Islands	42	36	..	..	..	..	..	..	..	..	..	..	17	..	..	2	1	..
Ceylon	391	..	..	..	3,183	..	..	..	..	..	610	..	214	..	..	..	..	..
Chili	..	..	58	..	101	8	79	..	76	..	107	..	81	..	21	..	25	..
China	1,994	..	689	..	1,788	..	161	..	..	..	..	..	..	..	..	..	..	..
Colombia	82	1	375	12	286	5	64	13	110	67	135	26	116	130	110	110	92	44
Costa Rica	71	87	191	19	265	..	170	67	102	133	183	50	151	63	272	35	263	45
Cuba	3,161	259	3,649	14	2,303	14	1,569	1,057	820	1,311	1,937	294	1,671	291	1,632	18	1,451	32
Czechoslovakia	983	4	118	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Denmark	..	..	144	..	3	..	..	..	178	..	154	..	255	..	80	..	..	..
Dominican Rep.	34	170	222	34	206	24	49	100	69	195	216	48	163	124	246	28	165	..
Dutch Indies (Indonesia)**	417	125	1,463	107	1,492	6	1,363	10	612	2	110	..	766	37	70	51	47	13
Dutch W. Indies‡	59	61	1,120	3	137	3	53	67	27	114	..	..	..	..	..	..	..	..
Ecuador	206	36	680	6	334	1	364	69	319	125	509	28	427	66	185	3	85	..
Egypt	476	19	535	..	..	..	13	..	..	..	194	20	263	312	789	256	494	..
Eire (Ireland)	176	..	1,059	..	457	..	36	..	82	..	..	..	..	..	..	..	..	..
El Salvador	68	3	149	9	156	..	149	8	177	5	190	1	197	2	217	2	263	..
Finland	188	..	1,133	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
France	5,034	288	5,141	138	6,060	..	203	..	..	..	..	..	..	..	2	1	..	..
French Africa‖	161	111	480	80	484	..	218	..	..	6	..	..	..	..	13	8	5	7
French Guiana	15	4	19	..	..	..	30	..	6	..	..	..	9	..	..	..	..	..
Fr. West Indies	204	89	332	9	531	..	643	..	111	..	1,870	..	123	..	..	..	..	..
Germany	3,342	..	6,155	211	14,672	..	2,263	..	4	..	..	..	..	..	260	5	26	1
Greece	1,184	16	2,602	20	4,130	..	2,742	..	1,068	..	..	..	..	..	..	2	2	..
Guatemala	125	41	291	24	379	..	276	50	226	69	256	19	339	40	276	38	384	30
Haiti	56	162	258	43	352	23	168	266	68	332	367	112	434	183	432	33	480	10
Honduras	22	26	68	9	59	4	55	29	31	56	90	29	72	61	92	38	108	39
Hong Kong	415	6	79	..	16	1	406	2	70	..	21	..	171	..	116	..	265	..
Hungary	..	..	..	..	23	..	..	..	..	..	..	..	..	..	..	..	..	..
Iceland	..	..	27	21	41	..	115	2	89	..	31	..	119	..	99	5	38	5
India	392	216	1,753	125	1,866	..	3	..	6	..	13	..	5	..	7	..	18	..
Indonesia	..	..	..	..	..	..	..	..	..	..	1,186	44	..	..	378	11	212	..
Iran	..	..	..	..	207	..	..	..	..	1	..	..	3	..	..	..	..	..
Italy	3,940	12	8,584	38	6,966	..	4,187	..	734	1	2	..	172	..	1	..	5	10
Jamaica	167	32	393	..	413	..	493	2	605	..	662	1	1,048	89	335	79	842	83
Japan	..	..	..	..	5,923	..	1,701	..	86	..	145	16	65	..	98	2	200	..
Korea	..	..	..	..	957	..	429	..	..	..	..	..	..	..	105	..	353	..
Lebanon	..	..	..	..	197	..	..	..	58	..	1,345	72	433	83	398	110	460	1
Liberia	3	2	7	..	67	..	6	4	2	13	4	1	4	6	13	11	12	5
Mexico	1,273	3	538	..	164	..	27	1	11	1	46	2	185	..	38	7	3	..
Morocco, French	..	2	192	..	85	..	..	..	..	..	..	..	..	..	..	..	1	..
Netherlands	1,466	..	3,947	3	3,699	..	1,197	..	1,589	2	1,607	25	1,783	..	1,455	..	1,675	..
Nicaragua	93	18	148	6	124	1	94	15	128	17	113	11	94	28	127	7	123	..
Norway	709	162	948	..	679	..	932	..	1,194	..	1,160	..	894	..	881	..	639	..
Palestine (Israel)	1	5	..	..	191	..	167	..	318	..	357	38	709	6	245	..	3	..
Panama	159	131	256	29	295	2	166	82	124	111	219	37	162	105	149	77	179	57
Peru	16	56	133	14	150	..	45	..	32	9	120	9	70	23	73	18	100	..
Philippine Rep.	2,546	27	2,621	4	3,286	..	2,346	2	1,980	..	1,719	..	1,698	..	1,625	2	1,750	..
Poland & Danzig	1,390	5	2,248	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..
Portugal	278	257	908	21	859	..	95	3	24	8	156	2	32	11	25	17	107	4
Port. Africa***	19	61	243	5	252	..	200	14	364	15	50	89	..	..	228	11	79	11
Portuguese Asia	..	..	..	..	..	..	..	..	..	115	16	..	22	..	49	..	100	..
Saudi Arabia	51	3	60	7	92	6	68	7	299	12	332	1	516	6	807	7	631	..
Spain	147	15	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Spanish Africa	54	66	..	..	2	..	..	..	..	..	..	..	..	..	5	..	23	..
Surinam	7	21	30	3	63	..	17	33	20	32	38	6	55	14	27	15	29	11
Sweden	1	..	216	..	53	..	..	..	..	..	..	..	..	..	..	..	..	..
Switzerland	315	..	1,141	..	266	..	2	..	..	2	8	..	2	..	..	..	..	..
Syria	..	..	..	..	157	..	..	..	..	..	13	18	..	..	..	..	..	..
Taiwan (Formosa)	..	..	..	..	..	..	..	..	..	133	780	..	718	..	306	..	..	..
Tangier	274	79	59	2	82	5	16	11	32	1	17	2	21	14	..	..	184	4
Trieste	..	..	..	..	599	..	66	1	101	12	85	3	..	..	..	..	2	..
Trinidad, Tobago	6	1	6	5	8	..	1	2	15	7	29	..	85	86	8	153	18	165
Turkey	..	..	..	..	..	..	106	..	228	..	218	2	..	..	..	..	..	..
U. K.****	2,741	168	3,860	16	3	..	1,396	6	831	..	1	3	..	..	1	3	91	..
U.S.S.R.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Venezuela	668	468	1,297	43	1,431	36	449	627	324	957	1,262	264	..	..	1,253	309	1,142	20
Yugoslavia	892	..	..	..	27	..	17	22	6	7	906	20	773	649	..	11	2	5
Other countries	..	..	..	..	..	..	..	..	..	..	278	11	810	400	72	12	433	1
Totals	45,022	4,639	75,045	1,322	74,798	257	29,288	2,930	15,299	4,566	21,006	1,876	17,783	3,111	15,123	2,321	15,577	804
Lend Lease	82	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
UNRRA	9,370	16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Totals include UNRRA and Lend Lease exports but do not include shipments to U.S. armed forces abroad. *British West Africa includes Gold Coast, Nigeria and others. †Other British West Indies except Barbados, Bermuda, Trinidad and Tobago. ‖British South Africa (Union of South Africa, other South Africa, and British East Africa). **Dutch East Indies (includes Cameroon, Neth. Antilles, Java and Madura). ‡Dutch West Indies (includes Curacao and Aruba). §French Africa (includes Algeria, Tunisia, Madagascar, French Somaliland, and other French Africa). ***Portuguese Africa (includes Mozambique and Macao). ****England, Wales, Channel Islands, Wight and Man, etc., Scotland and Northern Ireland.

U.S. Exports of Wheat to Foreign Countries for the Years 1937-54

Note: Included in 1948, 1949 and 1950 only are exports under the Department of the Army Civilian Supply Program. Not included are: shipments to the U.S. Armed Forces and U.S. government agencies and shipments between continental U.S. and U.S. territories and possessions. In bushels (000's omitted). Source: Bureau of the Census, U.S. Department of Commerce.

	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
Aegean Islands	....	....	....	....	....	....	....	....	....	75	....	....	....	....	....	....	....	....
Albania	....	....	....	....	....	....	....	....	719	259	....	....	....	....	....	....	....	....
Algeria	....	....	....	....	....	....	....	....	30,063	5,421	3,740	4,607	....	....	2,350	3,119	....	....
Australia	....	....	....	....	....	....	....	....	674	....	....	....	....	....	....	....	....	....
Austria	....	....	....	....	....	....	....	....	....	3,306	9,803	15,908	14,956	11,434	11,489	8,353	6,014	28
Azores & Madeira	....	24	....	....	102	....	....	....	....	119	394	537	437	994	218	96	238	....
Belgium	6,172	12,454	12,905	1,499	....	....	....	....	11,750	7,817	13,562	8,797	13,930	9,304	18,698	13,582	5,052	4,774
Bolivia	394	....	....	....	....	....	....	....	....	310	317	663	349	402	1,279	183	180	1,928
Brazil	356	....	....	....	....	....	....	....	588	1,377	....	....	....	5,569	11,094	36,654	5,475	7,298
British S. Africa	....	....	46	....	....	....	....	....	....	324	349	3,024	....	....	....	....	2,760	....
Canada	5,605	5,966	2,262	715	7,520	1	1,356	47	178	544	811	663	6,240	1,870	1,229	341	4	2
Chili	33	....	....	....	....	....	....	....	....	....	....	149	....	....	4,787	4,947	....	....
China	....	619	5,334	1,525	1,024	....	....	....	2,627	9,425	1,545	2,015	....	....	....	....	....	....
Colombia	57	362	354	51	11	75	81	35	152	75	595	387	182	....	806	906	40	455
Costa Rica	1	....	....	....	....	....	3	43	50	....	94	45	67	34	140	106	115	122
Cuba	16	56	72	24	12	60	22	2	71	76	85	71	58	68	46	482	1,403	1,701
Czechoslovakia	....	....	....	....	....	....	....	....	2,515	3,885	638	3	....	....	....	....	....	....
Denmark	144	1,815	....	....	....	....	....	....	....	....	664	....	....	961	1,407	1,036	91	342
Dominican Rep.	10	35	26	22	12	1	....	6	31	20	49	44	....	9	6	18	36	17
Ecuador	16	....	....	....	....	....	....	1	....	4	225	150	15	7	276	775	430	184
Egypt	....	....	....	....	....	1,014	247	....	1,706	150	475	2,044	2,046	683	10,818	13,390	9,365	....
Eire	3,395	11,159	3,843	1,189	....	....	....	....	....	302	2,494	1,206	2,950	2,973	1,504	895	1,171	416
El Salvador	182	210	269	68	52	13	23	41	26	....	57	62	40	20	57	92	89	124
Finland	19	28	....	....	....	....	....	....	....	1,584	2,745	....	....	....	1,057	853	....	....
France	589	867	365	40	....	....	....	....	27,795	20,474	16,055	25,184	7,280	....	3,208	13,593	....	....
French Africa	....	....	....	....	....	....	....	....	13,415	18	90	....	....	....	....	....	....	....
French Morocco	....	....	....	....	....	....	....	....	3,401	3,934	318	317	....	....	....	1,413	....	....
Germany	669	3,215	378	....	....	....	....	....	....	13,200	9,731	115,106	106,474	39,417	71,803	41,510	30,483	29,288
Gibraltar	....	....	....	....	....	....	....	....	....	....	....	....	....	112	91	....	....	....
Greece	623	2,153	70	....	....	....	....	....	10,034	8,245	10,733	14,627	13,500	12,880	22,693	11,855	5,339	8,489
Honduras	45	167	194	108	45	43	7	38	107	75	141	147	172	20	205	197	210	374
Hong Kong	3	12	10	3	....	....	....	....	....	....	....	....	1	1	....	....	....	56
Hungary	....	....	....	....	....	....	....	....	....	....	322	2	....	....	....	....	....	233
India	....	....	....	....	....	....	....	....	299	19,093	12,697	13,224	11,536	3,483	83,752	51,456	18,025	942
Iran	....	....	....	....	....	....	....	....	....	....	....	....	732	....	....	....	....	....
Italy	450	1,394	70	123	....	....	....	....	14,596	28,281	27,796	36,129	33,455	9,164	15,779	21,544	13,884	389
Japan	42	....	....	....	1,032	....	....	....	....	....	....	26,524	69,508	30,931	41,438	43,213	34,868	38,878
Korea	....	....	....	....	....	....	....	....	....	....	....	4,408	672	....	1,255	1,834	3,396	2,099
Mexico	996	2,894	1,970	94	4,886	4,446	9,622	8,814	9,258	9,549	10,936	9,548	8,049	16,300	14,251	16,382	8,825	3,129
Netherlands	7,187	15,500	7,853	914	....	....	....	....	6,806	11,002	12,168	19,197	12,712	18,305	19,231	12,204	6,731	7,251
Norway	149	671	278	699	....	....	....	....	....	3,223	2,039	4,684	2,864	3,747	2,968	2,189	1,113	2,675
Pakistan	....	....	....	....	....	....	....	....	....	....	....	986	....	....	....	4,428	25,282	647
Palestine (Israel)	22	46	83	....	....	....	....	....	323	....	....	336	411	2,559	....	5,774	5,185	3,890
Panama (including Canal Zone)	1	1	....	....	....	....	....	....	....	....	....	....	3	....	....	....	....	....
Peru	587	55	....	....	....	....	....	....	....	1,059	1,000	2,072	4,327	4,796	3,742	3,177	1,130	804
Philippine Rep.	....	....	....	....	....	....	....	....	167	....	....	....	2	....	....	....	....	1
Poland & Danzig	....	....	....	....	....	....	....	....	....	5,988	2,436	....	....	....	4,936	....	....	....
Portugal	....	1,818	....	56	....	....	....	....	310	3,436	4,491	7,478	8,552	6,727	....	3,240	2,305	1,309
Portuguese Asia	....	....	....	....	....	....	....	....	....	317	....	....	....	....	....	....	305	....
Saudi Arabia	....	....	....	....	....	....	....	....	152	319	249	815	104	82	29	345	174	212
Spain	351	170	305	....	....	....	....	....	579	1,114	....	....	1,660	950	5,379	1,016	7,266	16,151
Sweden	....	51	....	....	....	....	....	....	....	287	1,210	517	....	....	1,986	4,414	....	....
Switzerland	111	131	34	548	305	....	....	....	....	1,430	4,674	5,089	4,710	2,175	5,936	4,584	....	460
Taiwan	....	....	....	....	....	....	....	....	....	....	....	....	....	219	708	184	3,352	6,079
Trieste	....	....	....	....	....	....	....	....	....	....	....	....	347	1,055	1,167	1,836	671	544	....
Tunisia	....	....	....	....	....	....	....	....	1,506	67	....	....	....	....	41	717	....	....
Turkey	....	....	....	....	....	....	....	....	....	....	....	347	3,667	1,101	1,730	....	....	2,896
U. K.	6,562	24,892	22,876	3,064	1,488	61	25	....	1,445	16,996	11,564	3,667	7,462	17,278	42,645	17,714	14,266	16,132
Uruguay	....	....	....	....	....	....	....	....	....	1,614	338	....	....	....	....	....	....	....
U.S.S.R.	1	....	3,606	3,621	202	784	178	551	....	....	....	....	....	....	....	1	....	....
Venezuela	....	....	3	....	1	14	....	....	....	....	....	....	4	12	14	20	27	96
Yugoslavia	....	....	....	....	....	....	....	....	10,700	5,073	....	....	....	....	629	2,406	17,954	26,382
Other countries	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	17,579	1,991	3,051
Totals*	34,848	86,902	63,214	14,379	13,109	6,615	11,841	10,029	128,764	187,136	169,094	327,503	340,190	205,858	421,991	369,487	235,573	189,324
Lend Lease	....	....	....	....	....	1,076	499	967	54,112	7,458	....	....	....	....	....	....	....	....
UNRRA	....	....	....	....	....	....	....	....	26,722	58,500	....	....	....	....	....	....	....	....

Totals include UNRRA and Lend Lease exports. *Totals exceed sum of the figures for individual countries because a number of minor importing countries are not listed. British South Africa (Union of South Africa and other South Africa); Dutch E. Indies (including Java and Madura); Dutch West Indies (Curacao and Aruba); French Africa (Algeria, Tunisia, Cameroon, Madagascar and other French Africa); Portuguese Africa (including Mozambique, Angola and Cape Verde Islands); United Kingdom (England, Wales, Channel Islands, Wight and Man, etc., Scotland and North England).

Dextrins

Dextrins are intermediate degradation products of starch. Commercial dextrins are usually pyrodextrins, produced by roasting dry starch which may have been mixed with a small amount of acid or other catalyst. Dextrins are also formed in the incomplete acid hydrolysis and the enzymic hydrolysis of starch. The latter types differ in chemical structure and physical properties from the pyrodextrins. White dextrins—Dextrins produced by roasting starch in the presence of acid under such conditions of temperature and time that the product is nearly white. Canary dextrin—Dextrins produced by roasting starch usually in the presence of acid, under conditions of time and temperature which give a product of yellow or very light brown color. British gums—Dextrins made by roasting starch in the presence of little or no acid to produce a product which is usually brown in color.

British Columbia Grain, Flour Exports

Note: From Vancouver and other British Columbia ports, by calendar years, 000's omitted. Source: Vancouver Merchants Exchange.

	Flour bbl. Cent. &				
	U.K.	Orient	So. Am.	Others	Total
1954..	...	1,928	508	134	2,570
1953..	135	2,526	567	114	3,334
1952..	455	1,759	520	531	3,265
1951..	350	1,711	386	....	2,477
1950..	278	1,326	268	542	2,415
	Grain bu.				
1954..	55,280	37,877	12,268	8,599	114,566
1953..	54,537	40,564	9,327	22,050	126,479
1952..	61,275	35,920	14,186	26,843	138,224
1951..	46,393	22,377	4,745	16,148	89,663
1950..	29,677	4,151	5,800	13,344	52,972

U.S. Wheat and Flour Exports

Note: 000's omitted. Source: Bureau of the Census, U.S. Department of Commerce.

	Flour		Wheat	Tot. flour & wheat
	100-lb. sacks	In terms bu. wheat	bu.	
1954.....	17,444	41,691	189,324	231,015
1953.....	17,391	40,347	235,236	275,583
1952.....	20,750	48,140	366,547	414,687
1951.....	22,882	53,543	421,992	475,535
1950.....	19,865	46,682	205,858	252,540
1949.....	32,218	75,712	340,190	415,902
1948.....	75,055	176,379	327,503	503,882
1947.....	76,367	179,462	169,094	348,556
1946.....	49,661	116,703	187,136	303,839
1945.....	24,562	57,720	128,764	186,484
1944.....	16,917	39,755	10,029	49,784
1943.....	13,107	30,801	11,841	42,642
1942.....	8,599	20,208	6,615	26,823
1941.....	11,484	26,987	13,109	40,096

U.S. Exports of Wheat Flour to Countries of Destination for 1937-54

Note: In sacks, 000's omitted. Included are: Flour made entirely from U.S. wheat (including flour made from wheat imported in bond), other wheat flour, and exports under the Department of the Army Civilian Supply Program for 1948 and 1949. Not included are: Semolina for the years 1940-49, shipments to the U.S. Armed Forces and U.S. government agencies and shipments between continental U.S. and the U.S. territories and possessions. Source: Bureau of the Census, U.S. Department of Commerce.

	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
Afghanistan	....	....	....	....	....	....	....	....	....	231	....	....	....	....	1	....	....	....
Albania	....	....	....	....	....	....	....	....	154	13	....	1	....	32	....	....	....	....
Argentina	....	....	....	....	....	....	....	....	....	....	6	1	....	....	....	....	....	....
Austria	....	....	....	....	....	....	....	....	....	793	1,755	2,868	1,419	839	....	173	....	....
Azores & Madeira Islands	12	8	2	18	20	20	24	36	....	21	54	45	38	23	....	....	13	4
Barbados	8	12	14	6	4	24	20	28	3	16	34	37	40	35	27	58	25	37
Belgian Congo	24	31	29	45	52	69	65	104	109	79	102	132	106	179	215	130	222	157
Belgium	16	18	32	2	....	....	....	....	336	3,303	3,421	221	1	13	1	....	3	6
Bermuda	....	....	8	6	12	27	12	....	1	....	....	....	....	....	....	....	1	....
Bolivia	39	20	14	8	12	10	4	7	451	362	453	329	336	492	213	179	301	715
Brazil	136	74	89	139	253	167	184	474	2,010	4,728	8,369	7,299	1,315	37	358	213	91	....
British Guiana	2	8	4	2	4	....	....	....	1	....	....	....	....	89	60	79	33	314
British Honduras	18	31	47	35	76	84	84	83	64	43	51	47	60	64	52	55	62	71
British W. Africa*	237	206	263	137	183	186	145	198	203	122	214	215	622	689	....	997	783	728
Other B. W. Indies**	10	10	14	....	4	14	....	1	1	1	....	1	....	1	....	....	3	....
British S. Africa†	2	2	4	4	69	31	....	....	3	....	275	19	3	....	....	....	7	....
Canada (Newfoundl'd and Labrador)	320	394	376	316	296	107	115	388	132	76	107	88	25	68	101	232	348	136
Canary Islands	4	....	....	8	....	....	....	....	22	28	....	....	....	....	....	17	2	1
Ceylon	....	....	....	....	....	....	....	....	....	391	3,183	....	....	....	610	214	....	....
Chili	2	8	12	....	....	....	....	....	1	....	58	109	79	76	107	81	21	25
China	33	441	2,642	2,948	2,012	....	....	....	412	1,994	689	1,788	161	....	....	....	....	....
Colombia	16	16	32	24	18	26	28	81	382	83	388	291	77	174	161	246	236	136
Costa Rica	198	214	226	215	233	166	218	290	363	158	210	265	237	235	233	214	307	308
Cuba	2,062	1,942	2,048	1,989	2,171	2,789	2,962	2,834	4,486	3,419	3,663	2,317	2,626	2,131	2,231	1,962	1,650	1,483
Czechoslovakia	....	....	....	....	....	....	....	....	237	987	118	1	....	....	....	....	....	....
Denmark	4	6	8	....	....	....	....	....	....	....	145	3	....	178	154	255	80	....
Dom. Republic	88	92	103	98	102	112	122	281	271	204	256	230	149	264	262	287	274	165
D. Ind. (Indonesia)††	....	2	4	2	4	....	....	....	421	542	1,570	1,498	1,373	615	110	803	120	60
Dutch W. Indies†††	89	108	125	79	119	145	185	124	137	120	123	140	121	140	1,230	....	....	....
Ecuador	203	206	370	177	261	463	123	519	652	242	686	335	433	440	537	493	188	85
Egypt	321	257	107	29	350	13	....	....	222	495	535	....	13	....	214	575	1,045	494
Eire (Ireland)	....	2	2	....	....	....	....	....	....	176	1,059	457	36	82	....	....	....	....
El Salvador	57	49	53	49	77	85	115	116	198	71	158	156	157	182	191	199	219	263
Finland	40	26	6	....	43	....	....	....	....	188	1,133	1	....	....	....	....	....	....
France	22	24	26	....	....	....	....	....	....	5,332	5,279	6,060	203	....	....	....	3	....
French Africa***	96	86	29	14	56	16	....	234	353	357	711	484	221	6	....	....	22	12
French Guiana	16	8	....	12	16	14	34	36	30	19	19	17	30	6	....	9	....	....
French Indo-China	....	....	....	....	....	....	....	....	53	....	....	....	23	....	....	....	....	....
French W. Indies	231	255	126	216	443	274	191	400	465	293	341	531	643	111	....	123	....	....
Germany	34	8	2	....	....	....	....	....	9	3,342	6,366	14,672	2,263	4	1,870	....	268	27
Gibraltar	6	4	4	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....
Greece	22	30	49	16	....	....	....	....	155	1,200	2,622	4,131	2,742	1,088	....	....	2	2
Guatemala	204	204	213	172	182	219	180	195	341	166	315	379	326	295	275	379	314	414
Haiti	200	160	179	148	154	174	174	413	432	218	301	375	434	401	479	617	465	490
Honduras	26	36	41	26	33	26	36	56	76	48	77	63	84	82	119	133	130	147
Hong Kong	402	449	766	398	700	....	....	....	6	421	79	17	408	37	21	171	116	265
Hungary	....	....	....	....	....	....	....	....	....	1	23	1	....	....	....	....	....	....
Iceland	....	10	16	45	57	49	53	33	11	....	47	41	117	107	31	119	104	43
India	....	....	....	....	....	....	....	....	1	608	1,878	1,866	3	6	13	5	7	18
Indonesia	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1,230	....	389	212
Iraq	....	....	....	....	....	....	....	....	22	....	....	....	....	....	....	....	....	....
Iran	....	....	....	....	....	....	....	....	....	....	....	207	14	1	....	3	....	....
Italy	....	24	2	....	....	....	....	1	367	3,952	8,622	6,966	4,187	735	2	172	1	15
Jamaica	22	65	41	8	4	20	63	48	197	198	393	413	495	605	663	1,137	421	925
Japan	18	2	372	....	27	....	....	....	....	....	....	5,923	1,701	85	161	65	100	200
Korea	....	....	....	....	....	....	....	....	....	....	....	957	429	....	....	....	105	353
Kwangtung	29	....	539	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Lebanon	....	....	....	....	....	....	....	....	....	....	....	197	....	58	1,417	516	508	461
Liberia	....	....	....	....	....	....	....	....	....	4	....	67	10	15	5	10	24	17
Malta, Gozo, Cyprus	4	20	2	....	....	....	....	....	525	....	2	....	....	....	....	....	....	....
Mexico	41	10	14	23	21	10	55	1,305	525	1,276	539	164	28	12	48	185	45	3
Netherlands	913	933	1,776	359	....	....	....	....	16	1,466	3,949	3,699	1,197	1,590	1,632	1,783	1,455	1,675
Nicaragua	77	61	109	112	118	112	159	144	162	111	154	125	109	146	124	122	134	123
Norway	259	263	575	359	....	....	....	....	196	871	948	679	932	1,194	1,160	894	881	639
Palestine	79	110	214	33	31	....	....	....	....	6	....	191	167	318	395	715	245	3
Panama (including Canal Zone)	247	253	286	304	399	446	259	247	303	290	285	297	248	235	256	267	226	236
Peru	30	40	39	34	39	28	33	150	50	71	147	150	46	41	129	93	91	100
Philippine Rep.	1,033	1,723	2,078	1,755	1,759	....	....	....	1,038	2,573	2,625	3,286	2,349	1,837	1,719	1,698	1,627	1,750
Poland & Danzig	....	....	....	....	....	....	....	....	291	1,395	2,248	....	2	....	....	....	....	....
Portugal	4	6	6	10	8	10	2	8	99	534	929	859	98	32	158	43	42	111
Portuguese Africa¶	18	18	16	10	31	25	63	138	83	81	248	217	202	369	139	....	239	90
Port. Asia	....	....	....	....	....	....	....	....	....	....	....	....	42	115	16	22	48	100
Saudi Arabia	....	....	....	....	....	....	....	....	3	54	67	98	75	313	333	522	814	631
Spain	2	111	18	....	31	....	....	....	1	162	....	1	....	....	....	....	....	....
Spanish Africa	....	....	....	....	....	....	....	....	55	119	....	....	2	....	....	....	5	23
Surinam (Dutch Guiana)	47	59	72	51	67	84	87	98	91	28	33	63	50	55	44	69	42	40
Sweden	4	8	8	....	....	....	....	....	....	1	216	53	....	....	....	....	....	....
Switzerland	....	....	....	....	74	....	....	....	10	315	1,141	266	2	2	8	2	....	....
Syria	....	....	....	....	....	....	....	....	....	....	143	157	....	....	31	....	....	....
Taiwan	....	....	....	....	....	....	....	....	....	....	....	....	104	133	780	718	306	....
Tangier	....	....	....	....	....	....	....	....	301	353	61	87	27	33	19	35	....	188
Trieste	....	....	....	....	....	....	....	....	....	....	....	599	67	113	88	....	....	2
Trinidad & Tobago	8	39	10	4	2	4	....	14	2	6	11	8	3	22	29	171	161	183
Turkey	....	....	....	....	....	....	....	....	....	....	....	....	106	228	220	....	....	....
U. K.****	188	396	132	60	....	6	670	2,432	2,388	2,910	3,876	3	1,402	831	4	....	4	91
U.S.S.R.	....	....	....	....	51	1,876	5,226	2,051	....	....	....	....	....	....	....	....	....	....
Venezuela	496	622	782	819	776	625	653	1,134	1,074	1,076	1,341	1,467	1,076	1,281	1,526	....	1,562	1,162
Yugoslavia	....	....	....	....	....	....	....	....	974	892	....	27	37	13	926	1,422	11	7
Other countries	....	....	....	....	....	....	....	....	....	....	....	....	....	....	289	1,212	93	434
Totals	8,751	10,245	15,194	11,317	11,484	8,599	13,107	16,917	24,562	49,661	76,367	75,055	32,218	19,865	22,882	20,894	17,444	16,381
Lend Lease	....	....	....	....	260	1,857	6,123	4,568	3,430	82	....	....	....	....	....	....	....	....
UNRRA	....	....	....	....	....	....	....	....	2,555	9,386	....	....	....	....	....	....	....	....

Totals include UNRRA and Lend Lease exports. †British South Africa (Union of South Africa and other South Africa). *British West Africa (Gold Coast, Nigeria and other British West Africa). **Other British West Indies (all except Barbados, Bermuda, Trinidad and Tobago and Jamaica). ††Dutch East Indies (Java and Madura). †††Dutch West Indies (Curacao and Aruba). ***French Africa (Algeria, Cameroon, Madagascar, Tunisia and other French Africa). ¶Portuguese Africa (Mozambique, Angola and Cape Verde Islands). ****United Kingdom (England, Wales, Channel Islands, Wight and Man, etc., Scotland and North England).

U.S. Exports of Wheat Flour by Months for 1954

Note: By countries of destination, in sacks, 000's omitted. Included are: flour made wholly of U.S. wheat, other wheat flour (not including semolina), and exports under the Department of the Army Civilian Supply Program. Not included are: shipments to the U.S. Armed Forces and U.S. government agencies and shipments between continental U.S. and the U.S. territories and possessions. Source: Bureau of the Census, U. S. Department of Commerce.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals
Angola	7	18	3	1	22	18	28	39	..	27	..	37	200
Barbados	5	1	..	3	2	..	1	4	4	4	6	6	36
Bahrein	13	1	5	5	3	..	..	4	14	13	25	35	118
Br. W. Africa	7	42	7	28	31	43	45	39	75	146	99	81	643
Belg. Congo	1	1	8	9	11	16	1	8	20	14	17	16	122
Bolivia	35	77	105	103	62	83	94	29	44	1	79	1	713
Br. Guiana	10	10	..	20	9	30	48	28	31	44	38	46	314
Br. Honduras	5	4	10	6	6	5	7	4	7	4	7	6	71
Canada*	19	2	5	7	6	..	..	..	1	1	14	2	57
Chile	..	..	3	..	..	..	..	22	..	..	..	..	25
Colombia	13	..	1	1	7	15	9	12	7	8	10	9	92
Costa Rica	21	18	29	21	18	23	16	20	18	30	23	26	263
Cuba	94	111	119	135	121	144	117	42	86	141	178	163	1,451
Dom. Republic	10	13	15	13	20	10	12	7	5	5	27	28	165
Ecuador	7	21	17	12	..	14	8	5	1	..	..	..	85
Egypt	..	..	102	105	..	30	30	85	..	45	88	9	494
El Salvador	26	20	34	22	15	18	29	8	20	29	12	30	263
Fr. Somaliland	..	2	..	..	..	1	1	1	1	..	1	2	9
Guatemala	29	25	40	27	46	27	51	52	20	28	26	13	384
Haiti	26	13	9	55	31	61	20	19	27	84	77	58	480
Honduras	9	9	7	10	7	12	14	5	4	7	11	13	108
Hong Kong	15	11	14	32	30	12	5	23	30	26	28	39	265
Iceland	9	..	7	15	..	1	1	..	3	1	..	1	38
India	..	..	..	..	1	..	..	..	..	..	16	1	18
Indonesia	32	24	60	26	21	12	3	1	3	16	3	11	212
Italy	..	..	..	..	..	..	..	..	..	3	..	2	5
Jamaica	66	67	31	66	75	5	78	82	78	142	63	89	842
Japan	22	10	..	27	1	..	21	5	47	4	30	33	200
Kuwait	7	5	8	..	4	..	5	3	1	2	10	18	63
Lebanon	11	20	24	26	31	94	63	21	13	39	30	88	460
Liberia	..	1	..	..	1	1	1	2	2	1	2	1	12
Macao	3	..	..	..	..	..	..	..	..	..	..	1	4
Madeira	..	..	..	..	..	1	..	..	1	..	..	..	2
Mexico	..	1	1	..	..	1	..	..	..	..	..	..	3
Netherlands	115	127	148	103	123	134	154	115	112	137	218	189	1,675
Nicaragua	10	8	19	10	8	8	9	17	1	9	6	18	113
Nigeria	3	..	..	..	..	..	..	..	..	..	..	..	3
Neth. Antilles	4	2	2	3	4	3	7	1	6	2	1	7	47
Norway	87	57	40	25	35	50	35	84	31	114	38	43	639
Pal. (Israel)	..	..	..	1	..	..	1	..	1	..	..	1	4
Panama	14	10	13	15	17	17	9	12	8	21	17	24	177
Peru	5	1	18	16	10	22	7	1	8	3	4	5	100
Philippine Rep.	104	137	141	163	217	122	151	153	257	104	94	107	1,750
Portugal	14	2	14	18	..	2	..	3	25	1	27	1	107
Port. Asia	9	9	19	..	11	13	1	..	..	..	..	38	100
Saudi Arabia	48	61	45	31	35	36	12	41	33	54	159	76	631
Surinam	3	4	3	2	1	3	3	2	4	2	2	..	29
Trinidad, Tobago	..	..	2	..	..	..	..	..	3	3	6	7	21
Venezuela	155	33	116	167	19	83	139	35	87	118	74	116	1,142
Totals	1,075	987	1,281	1,425	1,164	1,212	1,371	1,196	1,183	1,476	1,645	1,562	15,577

*Newfoundland and Labrador.

Totals exceed sum of countries because minor importing countries are not listed.

London Flour Contract

The full text of the Flour Contract of the London Flour Trade Assn. appears in previous issues of the Almanack and may be consulted there by those who have occasion to examine its terms. Copies may be obtained upon request to The Northwestern Miller or any of its branch offices. The contract is not now in use, even by the British Ministry of Food, as a special contract has been devised for use in connection with the Canadian-U.K. Wheat Agreement. Some other European countries, such as Holland, base their flour contracts on the London contract and more general reference to the London contract may again be required if and when private trade is restored.

"DIAMOND D"

A High Grade Baker's Spring Patent
Milled under Laboratory Control from
Montana Spring Wheat

SHERIDAN FLOURING MILLS
INCORPORATED
SHERIDAN, WYOMING

U.S. Wheat Flour Exports

Note: By crop years, U.S. Department of Agriculture, in sacks, 000's omitted.

Wheat Flour, Wholly of U. S. Wheat

	1952-53	1953-54
Canada (Newfoundland and Labrador)	100	88
Latin American Rep.:		
Mexico	89	29
Guatemala	294	306
El Salvador	240	213
Honduras	92	102
Nicaragua	117	124
Costa Rica	263	268
Panama, Republic of	123	124
Canal Zone	53	56
Cuba	2,050	1,309
Haiti	519	446
Dominican Republic	272	185
Colombia	112	93
Venezuela	1,279	1,157
Ecuador	389	83
Peru	31	132
Bolivia	207	601
Chile	57	5
Brazil	190	89
Other L. A. Republics	...	1
Total L. A. Republics	6,377	5,323
British Honduras	68	72
British West Indies	991	445
Netherlands Antilles	64	77
British Guiana	74	95
Surinam	29	40
Europe:		
Iceland	129	50
Norway	904	710
Denmark	162	1
Netherlands	1,566	1,413
West Germany	3	295
Austria	173	...
Portugal	22	65
Italy	114	...
Other Europe	4	12
Total Europe	3,077	2,546
Lebanon	610	347
Israel	552	1
Saudi Arabia	543	703
Ceylon	214	...
Indonesia	495	351
Rep. of the Philippines	1,755	1,733
Portuguese Asia	111	91
Hong Kong	180	133
Taiwan (Formosa)	563	...
Japan	36	156
Egypt	50	1,027
Gold Coast	526	77
Nigeria	241	130
Other British West Africa	86	36
Angola	197	187
Belgian Congo	63	96
Other countries	341	500
Total	17,343	14,254

Other Wheat Flour

Canada (Newfoundland and Labrador)	257	103
Latin American Rep.:		
Guatemala	49	36
Honduras	41	46
Costa Rica	52	45
Panama, Republic of	101	75
Cuba	105	29
Haiti	67	37
Dominican Republic	72	11
Colombia	148	60
Venezuela	508	160
Ecuador	29	...
Bolivia	57	1
Other L. A. Republics	80	3
Total L. A. Republics	1,309	503
British West Indies	312	135
Netherlands Antilles	85	32
Surinam	19	15
Europe:		
Iceland	...	10
Portugal	7	14
Yugoslavia	12	6
Other Europe	7	5
Total Europe	26	35
Lebanon	40	110
Indonesia	3	9
Egypt	522	7
Gold Coast	65	141
Nigeria	73	157
Other British West Africa	5	29
Madeira Islands	15	7
Liberia	7	10
Belgian Congo	155	108
Other countries	56	22
Total	2,949	1,423
Grand total	20,292	15,677

U.S. Wheat, Flour Imports

Note: By crop years ending June 30. Source: U.S. Department of Commerce.

	Flour, sacks	Wheat, bu.
1953-54	57,871	8,388,000
1952-53	50,178	27,815,000
1951-52	46,883	37,303,000
1950-51	2,068	20,001,000
1949-50	51,013	11,721,000
1948-49	74,561	4,397,000
1947-48	2,680	143,000
1946-47	3,000	2,018,000
1945-46	33,000	13,494,000
1944-45	83,000	51,367,000
1943-44	41,707	151,365
1942-43	41,803	8,533,000
1941-42	74,786	15,396,000
1940-41	122,000	10,732,000
1939-40	139,000	10,094,000
1938-39	163,000	9,235,000
1937-38	59,000	3,421,000
1936-37	80,000	47,731,000
1935-36	69,000	46,472,000
1934-35	8,000	*25,116,000
1933-34	1,617	†11,490,437
1932-33	1,239	9,379,000
1931-32	531	12,884,903
1930-31	2,338	19,053,000
1929-30	3,339	12,948,000
1928-29	5,101	21,429,774
1927-28	11,229	15,706,784

*Including 14,052,000 bu. for domestic consumption, of which 8,146,000 was for feed. †Including 149,000 bu. for domestic consumption, of which 6,000 was for feed.

U.S. Macaroni Exports

Note: Macaroni and macaroni products, by calendar years, in pounds, 000's omitted. Source: Bureau of the Census, U.S. Department of Commerce.

	1954	1953	1952	1951
Canada*	1,106	1,435	1,213	115
Mexico	25	98	...	28
Guatemala	3	7	...	31
El Salvador	67	96	...	23
Nicaragua	3	...	...	8
Costa Rica	...	25	...	12
Panama Rep.	182	310	233	149
Panama C. Z.	654	852	...	515
Cuba	531	1,006	1,130	816
Haiti	27	199	...	72
Dom. Rep.	783	587	...	207
N. Antilles	17	15	...	17
Colombia	5	...	...	...
Venezuela	15	116	...	88
U. K.	6	...	...	...
Belgium & Lux.	12	12	...	21
Portugal	...	40	...	16
Italy	6	...	...	...
Saudi Arabia	5	71	...	210
Phil. Rep.	46	779	415	395
Hong Kong	10	57	...	11
France	5	12	...	...
Japan	59	129	...	47
Tangier	...	...	...	6
Belg. Congo	33	23	...	71
Yugoslavia	...	...	...	1,636
Angola	19	43	...	199
Nigeria	...	...	...	7
Siam	...	46	...	14
Lebanon	23	21	...	7
Others	106	436	3,158	228
Totals	4,188	6,512	6,149	4,750

*Includes Newfoundland and Labrador.

U.S. Semolina Exports

Note: By crop years, in pounds, 000's omitted. Source: USDA.

	1950-51	1951-52	1952-53	1953-54
Mexico	168	912	1,440	1,893
Dom. Rep.	325	1,120	905	1,150
Colombia	4,256	3,576	612	378
Venezuela	171	82	305	40
Other L. A. Republics	31	103	593	25
Europe	...	110	...	...
Lebanon	...	548	1,557	...
Rep. of the Philippines	...	71	123	...
Belgian Congo	...	15	4	...
Others	...	731	...	44
Total	4,951	6,539	5,554	3,670

U.S. Durum Wheat Supply and Distribution

Note: In bushels, 000's omitted. **Source: USDA**

Items of supply and distribution	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55
Supply—Stocks, July 1—						
Farm	5,610	6,837	7,244	6,051	1,568	2,637
Interior mills and elevators	6,016	5,361	3,775	5,010	1,700	481
Commercial	5,213	10,142	8,287	2,842	1,398	344
Merchant mills	1,197	2,618	4,318	4,029	2,176	1,399
Total	18,036	24,958	23,624	17,932	6,842	4,861
Crop*	39,503	37,948	35,492	23,097	13,883	6,014
Total domestic supply	57,539	62,906	59,116	41,029	20,725	10,875
Imports, July-December	‡	†56	385	158	...	...
Total supply, July-December	57,639	62,962	29,501	41,187	20,725	10,875
Distribution, July-December—						
Mill grindings	11,663	11,961	13,001	12,672	6,795	3,578
Feed, cereal mfg. and other uses¶	5,184	2,860	—1,048	1,712	854	562
Exports	779	2,068	8,416	§1,507	41	...
Total	17,626	16,889	20,369	15,891	7,690	4,140
Stocks, Dec. 31—						
Farm	22,428	23,327	22,000	12,000	7,500	3,950
Interior mills and elevators	7,597	9,136	6,000	4,000	1,350	700
Commercial	5,434	7,957	5,794	2,957	772	298
Merchant mills	4,454	5,653	5,338	6,339	3,143	1,787
Merchant mills	4,454	5,653	5,338	6,339	3,413	1,787
Total	39,913	46,073	39,132	25,296	13,035	6,735
Imports, January-June	‡	†158	13	...	...	...
Total supply, January-June	39,913	46,231	39,145	25,296	...	6,735
Distribution, January-June—						
Mill grindings	9,967	11,375	12,532	10,995	5,120	...
Seed requirements	4,085	3,610	3,218	2,997	1,948	...
Feed, cereal mfg. and other uses¶	557	70	—657	2,894	1,106	...
Exports	346	7,552	6,120	1,568	...	...
Total	14,955	22,607	21,213	18,454	8,174	...
Stocks, June 30	24,958	23,624	17,932	6,842	4,861	...

*All states. †Reported in Canadian grain statistics as durum wheat shipped to U.S. A large portion of this may be frosted wheat and imported as feed wheat. ‡None reported. ¶Includes waste, loss and statistical errors of estimates. §The bulk of this is No. 3 and 4 amber durum.

U.S. Corn Exports to Various Countries

Note: By years, in bushels of 56 lb., 000's omitted. Source: Bureau of the Census, U.S. Department of Commerce.

	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944
Austria	2,791	7,019	6,544	8,041	7,061	6,293	64	2,841	768	..	..
Azores & Madeira Islands	..	..	..	..	..	..	..	80	..	..	..
Belgium	5,389	13,124	12,731	7,399	4,872	2,852	579	3,878	474	1,967	..
Bermuda	..	1	..	..	..	..	..	..	..	..	..
Br. W. Africa	..	3	..	..	80	..	..	..	..	..	..
Canada	11,422	5,186	6,372	11,713	24,917	16,897	10,431	8,048	2,379	2,140	4,274
Canary Islands	..	..	141	935	2,980	778	..	..	..	..	..
China	..	..	..	..	..	..	22	5	..	..	..
Colombia	20	..	..	..	..	..	..	..	20	..	..
Costa Rica	..	..	..	..	..	..	..	..	..	113	..
Cuba	..	11	..	4	3	6	4	46	10	128	..
Czechoslovakia	..	..	..	..	..	..	..	..	320	..	..
Denmark	20	80	834	..	180	9,488	337	..	..	..	..
Egypt	..	360	..	324	..	500	384	2,810	..	..	..
Finland	28	..	120	1	..	..	..	732	..	..	..
France	3	5,031	1,626	9,047	12,924	7,168	2,164	13,573	39	734	..
Fr. W. Africa	..	..	..	..	1	39	..	..	..	..	..
Germany	4,879	4,152	6,030	3,591	5,503	52,987	6,626	10,704	2,799	..	..
Greece	119	58	..	309	180	360	360	2,535	507	543	..
Guatemala	..	..	..	..	9	147	..	..	..	292	..
Hungary	240	..	..	..	..	591	..	..	..	..	..
Iceland	..	524	..	..	..	..	..	8	3	6	7
India	44	1,113	..	924	..	1,794	..	335	4,003	2	..
Ireland	1,832	6,685	3,645	2,661	8,367	12,554	377	..	..	..	..
Italy	..	2,396	1,845	..	4,216	..	2	17,499	1,054	..	..
Jamaica	..	..	..	4,239	..	..	..	169	80	..	..
Japan	5,412	6,501	1,251	1,971	414	9,455	660	..	..	..	..
Korea	..	..	..	..	..	..	85	..	..	..	..
Mexico	3,808	15,797	982	4,829	13	12	13	32	378	1,657	5,074
Mozambique	..	..	..	..	..	277	..	..	..	..	..
Netherlands	7,525	12,419	11,712	8,679	6,187	4,291	1,440	5,274	2	608	..
Norway	1,040	3,679	3,866	2,493	3,329	4,355	..	339	..	..	..
Palestine, Israel	..	721	..	..	237	236	..	..	..	..	..
Panama	..	..	..	..	..	..	1	..	..	1	..
Philippine Rep.	..	..	..	..	3	62	13	4	72	88	..
Poland & Danzig	..	..	..	..	..	..	..	1,925	630	..	..
Port. Asia	..	..	..	..	..	..	..	..	332	..	..
Portugal	..	..	..	..	..	160	1	2,333	301	..	..
Rumania	..	..	..	..	..	..	..	4,123	..	..	..
South Rhodesia	..	1,774	..	..	..	376	..	334	..	..	..
Spain	..	..	141	1,321	354	..	..	..	..	..	..
Sweden	..	89	..	..	343	..	..	..	20	20	20
Switzerland	4	1,043	1,590	148	131	443	24	1,704	20	..	..
Trieste	1,188	2,688	370	1,057	788	354	..	..	..	..	..
U. K.	3,251	31,075	29,934	23,735	12,357	532	8	6,927	324	7,022	839
Un. of S. Africa	..	4,338	4,365	..	..	..	..	..	..	..	..
U.S.S.R.	..	..	..	..	..	..	..	..	9	12	12
Venezuela	1	10	8	509	362	49	3	1,077	2	..	3
Yugoslavia	..	4,058	3,189	5,447	..	..	..	..	674	180	..
Other countries	213	112	1,979	1,343	..	2	10	25	22	18	2
Totals	76,209	131,177	99,275	99,830	95,217	133,058	23,604	87,528	15,202	15,529	10,231
Lend Lease	..	..	..	..	..	..	..	..	53	9,304	852
UNRRA	..	..	..	..	..	..	..	..	3,970	723	..

Totals include UNRRA and Lend Lease exports but do not include shipments to U.S. armed forces abroad.

ALL the world knows . . .

FLOUR

is your prime ingredient!

BUY THE DEPENDABLE 8:

- Masterpiece
- Sweet Cream
- Very Best
- Bulah
- Encore
- Choice of Minnesota
- Belmont
- Stamina

QUALITY W.J. Jennison Co. SERVICE

SALES OFFICES:
576 Grain Exchange Bldg.
Minneapolis 15, Minn.

MILLS AT:
Appleton, Minnesota

U.S. Exports by Crop Years

Note: Wheat, flour and grain exports by crop years, ending June 30. Source: U.S. Bureau of Foreign and Domestic Commerce.

	Wheat, bu.	Flour, sacks
1954	183,169,000	14,254,000
1953	†276,445,000	†17,343,000
1952	430,951,000	20,273,000
1951	321,835,000	22,395,000
1950	264,782,000	21,223,000
1949	375,336,000	57,571,000
1948	304,688,000	78,493,000
1947	175,106,000	83,124,000
1946	226,250,000	40,607,000
1945	19,010,000	16,135,000
1944	11,942,000	16,350,000
1943	6,555,000	11,196,000
1942	12,632,000	9,773,000

COARSE GRAIN EXPORTS
(In bus, 000's omitted)

Years ending June 30—	Barley	Corn	Oats	Rye
1954	13,964	108,251	345	7
1953	32,504	†122,807	†1,126	320
1952	25,841	79,200	4,606	4,588
1951	35,383	113,745	6,747	5,928
1950	23,990	113,305	15,642	5,810
1949	23,600	19,810	18,183	5,431
1948	16,725	30,543	11,295	2,247
1947	10,226	105,192	17,757	573
1946	2,967	13,010	18,291	6,165
1945	775	15,297	250	1,747
1944	404	*....	228	110
1943	418	9,997	278	15
1942	1,548	4,805	604	23

*Not available. †Revised.

U.S. Grain Exports

Note: By calendar years, in bushels, 000's omitted. Source: Bureau of the Census, U.S. Department of Commerce.

	Corn	Oats	Rye	Barley
1954	76,209	979	1,788	21,853
1953	131,177	1,213	4	17,284
1952	99,275	1,416	4,478	36,025
1951	99,830	3,437	5,176	37,978
1950	95,217	1,549	3,358	16,056
1949	133,058	20,769	5,460	29,203
1948	23,604	14,349	1,110	13,617
1947	87,528	6,071	1,763	1,138
1946	15,202	25,507	3,176	1,407
1945	15,529	3,617	5,004	2,309
1944	10,231	293	47	306
1943	5,133	121	78	407
1942	9,798	416	11	827

National Association of Macaroni and Noodle Manufacturers of America—Presidents

The names of presidents of the National Association of Macaroni and Noodle Manufacturers of America, with their periods of office, are shown herewith:

Thomas H. Toomey (1904-05) of A. Zerega's Sons, Consolidated, Brooklyn, N. Y; G. F. Argetsinger (1905-06) of L. B. Eddy Co., Rochester, N. Y; Edward Driess (1908-10) of San Antonio Macaroni Factory, San Antonio, Texas; C. F. Mueller, Jr. (1910-16) of C. F. Mueller Co., Jersey City, N. J; William A. Tharinger (1916-17) of Tharinger Macaroni Co., Milwaukee, Wis; James T. Williams (1917-21) of the Creamette Co., Milwaukee, Wis; C. F. Mueller, Jr. (1921 for six months) of C. F. Mueller Co., Jersey City, N. J; B. F. Huestis (1922 for six months) of Huron Milling Co., Harbor Beach, Mich; Henry Mueller (1922-28) of C. F. Mueller Co., Jersey City, N. J; Frank J. Tharinger (1928-30) of Tharinger Macaroni Co., Milwaukee, Wis; Frank L. Zerega (1930-32) of A. Zerega's Sons, Inc., Brooklyn, N. Y; Alfonso Gioia (1932-33) of A. Gioia & Brothers, Rochester, N. Y; G. G. Hoskins (1933-34) of the Foulds Milling Co., Libertyville, Ill; Louis S. Vagnino (1934-36) of Faust Macaroni Co., St. Louis, Mo; Philip R. Winebrener (1936-39) of A. C. Krumm & Sons, Philadelphia, Pa; J. Harry Diamond (1939-40) of Gooch Food Products Co., Lincoln, Neb; Joseph J. Cuneo (1940-41) of La Premiata Macaroni Corp., Connellsville, Pa; C. W. Wolfe (1941 to date) of Megs Macaroni Co., Harrisburg, Pa.

Ergot

Ergot is a fungus disease of rye, other cereals, and wild grasses, in which the grains are replaced by dark-colored growths also called ergot. Medicaments prepared from ergotized cereal kernels are used to stop bleeding and cause abortion. Ergot is a powerful poison.

Weight Variations

As normally milled, the average moisture content of flour when it leaves the packers is usually from 13.75 to 14% of the total weight. This may vary slightly from time to time, depending on the type of wheat and local weather conditions at the time the flour is milled, but, by and large, this is the general average for the country as a whole. (The maximum amount permitted by law is 15%.) Obviously, any variation in this factor from the time the flour leaves the mill until it reaches destination will have a definite bearing on the net weight of the flour which the purchaser receives. If there is a gain in moisture, the net weight will be increased and if there is a loss, the net weight will be reduced.

A large number of experiments have been conducted over a period of years in which the natural loss of moisture of flour has been measured under varying conditions of storage. The table below, for example, gives the results of a study made a number of years ago by the city sealer of weights and measures at La Crosse, Wis., in which three sacks of spring wheat short patent flour were subjected to what might be termed dry storage, but involving substantially the same conditions as would prevail in a heated warehouse, or as would exist where the flour was not constantly in contact with the outer air.

Weight Variations in Sacked Flour
(pounds and ounces)

Jan. 22	49- 3	24-10	12- 5
Jan. 23	48-11	24- 5	12- 3
Jan. 24	48- 7½	24- 3	12- 1
Jan. 25	48- 5½	24- 2	12- ½
Jan. 26	48- 4	24- 1½	12-
Jan. 27	48- 3	24- 1	11-15¾
Jan. 28	48- 1	24-	11-15
Jan. 29	48-	23-15	11-15
Jan. 30	47-15½	23-15	11-14½
Jan. 31	47-14½	23-14	11-14
Feb. 1	47-12	23-13	11-13½
Feb. 2	47-11	23-12	11-13
Feb. 3	47-10	23-11	11-13
Feb. 4	47- 9½	23-10½	11-12
Feb. 5	47- 9	23-10½	11-12½
Feb. 6	47- 8	23- 9	11-12
Feb. 7	47- 6½	23- 8½	11-11½
Feb. 8	47- 6	23- 8	11-11
Feb. 9	47- 5	23- 7½	11-11
Feb. 10	47- 4	23- 7	11-10½
Feb. 11	47- 3	23- 6½	11-10
Feb. 12	47- 2½	23- 6	11-10
Feb. 13	47- 2	23- 6	11- 9½
Feb. 14	47- 1	23- 5	11- 9
Feb. 15	46-15	23- 4	11- 8½
Feb. 16	46-14½	23- 3	11- 8
Feb. 17	46-15	23- 3½	*11- 9½
Feb. 18	46-14½	23- 3	11- 8
Feb. 19	46-14	23- 2½	11- 8
Feb. 20	46-13	23- 2	11- 8
Feb. 21	46-12	23- 2	11- 7½
Loss	2- 7	1- 8	0-13½

*Windows open for the day.

Most government regulatory authorities have long since recognized the inevitability of flour weight variations due to moisture changes and make due adjustment for such changes from the normal moisture when packed in their weight checking operations. For example, the Federal Food and Drug Administration has issued a regulation relating to flour as well as some other foods of similar physical characteristics on this subject which provides that: "Variations from the stated weight or measures shall be permitted when caused by ordinary and customary exposure, after the food is introduced into interstate commerce, to conditions which normally occur in good distribution practice and which unavoidably result in change of weight or measure."

The Farinograph

The farinograph is an electrically-driven dough mixer, invented by the Brabender Corp., which graphically records, by means of a dynamometer, the resistance of the dough to mixing. The particular shape of the curve or "farinograph," obtained for any dough is a measure of its plasticity and, by proper interpretation, is an index to its baking quality. E. von Hankoczy, a Hungarian, in 1904, was the first man to use this principle of testing. In 1928, C. W. Brabender, a German, perfected a machine for commercial use based on this principle. This machine, called a farinograph, has been widely adopted in Europe and to some extent in this country. A machine of this kind, but called mixograph or volorigraph was also developed by C. O. Swanson, but it has not been very widely adopted.

U.S. Trade in Oilcake, Meal

Note: Imports and exports, tons, 000's omitted. Source: USDA.

IMPORTS

Yr. beginning Oct.	Cotton-seed	Soy-bean	Lin-seed	Pea-nut	Copra
1953	70.0	16.0	1.0	1.0	$0.0
1952	135.6	41.1	26.4	3.5	97.1
1951	203.1	24.1	23.3	5.2	104.1
1950	90.7	32.8	1.0	1.1	65.8
1949	104.5	26.1	4.8	6.2	56.4
1948	39.4	3.2	8.1	.9	44.3
1947	13.8	0	8.8	3.1	7.0
1946	15.6	0	‡	1.1	.5
1945	47.6	‡	1.2	3.1	1.5
1944	87.4	0	10.0	2.5	.1
1943	96.3	0	2.5	3.6	0
1942	46.8	0	1.0	4.6	0
1941	37.3	0	.2	7.1	22.6
1940	52.2	8.1	.6	7.5	84.0
1939	33.0	12.1	1.3	9.8	88.4
1938	4.4	12.3	7.8	10.5	53.9
1937	4.6	15.5	5.3	2.2	39.8
1936	26.8	55.7	15.9	9.6	73.0
1935	5.7	20.0	17.2	1.9	49.3
1934	47.4	64.2	10.2	3.5	51.5
1933	5.0	25.0	8.7	1.2	27.9
1932	3.0	28.3	11.2	†2.3	7.1
1931	1.1	18.6	12.3	†2.3	4.6

EXPORTS

Yr. beginning Oct.	Cotton-seed	Soy-bean	Lin-seed	Pea-nut	Copra
1953	63.0	67.0	..	..	..
1952	48.7	46.8	..	..	..
1951	55.0	41.8	7.0	2.2	..
1950	13.2	181.1	29.2	24.0	.3
1949	123.6	47.4	6.5	48.9	0
1948	121.7	150.1	54.0	21.1	0
1947	9.6	95.7	28.5	3.7	0
1946	5.3	141.7	4.6	26.2	5.1
1945	‡	.9	.3	.1	.1
1944	‡	10.0	.7	.4	.1
1943	.6	16.1	1.5	.1	.1
1942	1.7	20.9	4.2	.1	.1
1941	1.1	19.7	11.1	*	*
1940	.9	25.4	4.8	*	*
1939	4.9	62.3	146.7	*	*
1938	11.6	35.0	286.6	*	*
1937	88 5	*	240.3	*	*
1936	12.6	*	328.8	*	*
1935	10.6	*	210.6	*	*
1934	2.9	*	205.5	*	*
1933	63.1	*	241.7	*	*
1932	145.8	*	168.0	*	*
1931	218.9	*	169.9	*	*

*Not separately reported. †Calendar year following. ‡Less than 50 tons. Compiled from data of the Bureau of Foreign and Domestic Commerce and Bureau of the Census. Table prepared by the Bureau of Agricultural Economics, U.S. Department of Agriculture.

U.S. Flour, Grain Imports

Note: By calendar years, 000's omitted. Source: Bureau of the Census, U.S. Department of Commerce.

Year—	Wheat flour, sacks	Wheat, bu. Domestic consumption	Wheat, bu. Milled in bond for export To Cuba	Wheat, bu. Milled in bond for export To all others
1954	...	1,683	44	992
1953	6,255	877	7	4,674
1952	1,597	6,812	615	1,361
1951	525	26,245	508	3,653
1950	47	8,448	2,191	1,901
1949	79	1,393	1,873	6,718
1948	7	24	..	..
1947	2	22	107	110
1946	10	36	310	6,122
1945	31	4,869	25	11,408
1944	80	110,528	849	9,917
1943	56	49,206	3,160	6,188
1942	91	961	3,321	5,043
1941	10	895	1,813	8,405
1940	147	379	2,457	6,197
1939	172	394	2,598	7,756

Year—	Lb. Rye flour	Bushels Rye	Corn	Barley	Oats	Flax-seed
1954	..	4,970	1,136	27,961	33,733	..
1953	..	15,864	887	34,933	83,402	..
1952	8	2,144	909	16,620	66,878	..
1951	19	1,559	807	12,958	16,082	..
1950	15	3,789	681	12,842	19,584	2
1949	1	12,190	742	12,688	17,013	148
1948	..	2,039	624	6,859	13,217	1,066
1947	..	818	622	141	730	282
1946	..	992	720	4,411	2,556	3,394
1945	..	3,046	259	17,743	54,161	3,796
1944	..	10,845	9,166	42,289	80,049	10,739
1943	..	2,071	211	44,607	76,784	10,624
1942	..	408	556	6,387	9,527	13,729
1941	..	9,866	756	898	6,021	21,122
1940	..	60	1,621	1,406	12,151	11,826
1939	..	*..	490	776	4,293	16,028

*Too small to be reported separately.

U.S. Barley Exports to Various Countries

Note: By years, in bushels of 48 lb., 000's omitted. Source: Bureau of the Census, U.S. Department of Commerce.

	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944
Algeria	..	..	..	..	..	..	..	..	68	..	..
Australia	..	..	..	..	..	..	..	..	..	938	..
Austria	..	..	..	..	1,292	997	498	1	206	..	..
Belgium	3,264	2,319	3,707	1,876	2,916	1,293	..	16	430	80	..
Canada	7	159	2,512	3,632	238	2,658	58	386	..	22	..
Colombia	2	..	..	184	..	..	..	..	..	..	..
Denmark	..	..	..	..	..	187	..	..	..	..	..
France	9	..	..	35	..	1,213	..	..	..	..	..
Fr. W. Africa	..	..	..	..	..	..	..	..	..	..	8
Germany	80	..	..	..	..	3,034	3,770	708	..	..	..
Greece	..	..	..	..	..	789	..	53	194	50	..
Japan	9,488	7,488	13,745	24,126	8,191	15,869	8,503	..	..	..	..
Korea	1,868	7,115	14,085	3,785	389	..	167	..	..	..	..
Mexico	642	87	145	752	433	282	206	230	201	567	254
Netherlands	3,210	23	1,304	..	138	2,544	411	..	97	187	..
New Zealand	..	..	..	..	..	..	..	..	..	104	..
Norway	423	20	134	233	171	..	..	..	104	..	..
Philippines, Rep. of	..	..	..	4	..	..	..	..	..	..	..
Poland	..	..	..	..	..	..	..	116	..	..	..
Switzerland	901	34	72	840	2,043	330	..	14	..	..	..
U.S.S.R.	..	..	..	..	..	..	..	..	..	179	3
Yugoslavia	..	..	28	1,566	280	..	..	..	..	..	..
Other countries	1,959	21	322	945	..	4	4	1	24	3	3
Totals	21,853	17,284	36,025	37,978	16,056	29,203	13,617	1,138	1,407	2,809	306
Lend Lease	..	..	..	..	..	..	..	..	..	1,009	11
UNRRA	..	..	..	..	..	..	..	..	401	50	..

Totals include UNRRA and Lend Lease exports but do not include shipments to U.S. armed forces abroad.

U.S. Rye Exports to Various Countries

Note: By years, in bushels of 56 lb., 000's omitted. Source: Bureau of the Census, U.S. Department of Commerce.

	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944
Austria	..	..	1,106	2,262	..	3,675	5	..	11	..	..
Belgium	78	..	268	20	..	..	..	..	..	1,746	..
Canada	714	..	..	36	..	1	2	1,385	1	..	..
Czechoslovakia	..	..	..	..	..	..	..	..	..	1,595	..
France	..	..	..	..	..	..	..	368	..	..	..
Germany	277	..	2,645	2,038	2,415	4,406	1,078	..	434	..	..
Iceland	..	..	..	..	..	..	8	..	..	..	..
Japan	..	..	..	..	..	18	18	..	..	..	..
Mexico	7	3	5	3	..	..	..	..	..	..	47
Netherlands	387	..	142	..	..	360	..	..	..	..	..
Norway	..	..	..	733	..	..	..	..	1,406	..	..
Poland	..	..	..	..	..	..	..	..	31	135	..
Portugal	..	..	..	..	943	..	..	..	..	..	..
Switzerland	..	..	118	76	..	..	..	..	511	..	..
U. K.	..	..	..	..	..	..	..	..	780	..	..
Yugoslavia	..	..	..	..	..	8	..	..	..	1,528	..
Other countries	325	3	196	7	..	..	**	**	1	9	**
Totals	1,788	4	4,480	5,175	3,358	8,460	1,110	1,753	3,176	5,004	47

Totals include UNRRA and Lend Lease exports but do not include shipments to U.S. armed forces abroad. **Less than 500 bu.

U.S. Semolina Exports to Various Countries

Note: In pounds, 000's omitted. Source: Bureau of the Census, U.S. Department of Commerce.

	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944
Bahamas	..	..	..	..	..	93	..	..	..	..	..
Belgian Congo	..	..	..	..	..	52	..	..	..	108	..
Brazil	..	..	..	..	..	..	600	220	..	..	..
Colombia	170	544	2,580	2,549	5,063	2,308	732	180	120	420	341
Costa Rica	45	142	..	..	..	..	60	..	..	..	..
Cuba	920	259	..	..	20	40	..	..	..	..	..
Denmark	..	..	..	..	..	..	..	498	..	..	..
Dominican Rep.	1,451	832	..	509	503	594	549	490	50	321	..
Ecuador	..	..	..	..	..	40	..	..	..	..	..
France	..	..	..	..	..	..	..	3,613	..	..	..
Fr. W. Africa	..	..	..	..	..	..	280	19,951	10,218	17,090	54,026
Honduras	10	..	..	..	10	140	..	..	..	..	..
Italy	..	..	..	..	..	..	19,091	9,945	..	..	..
Mexico	380	1,374	..	82	63	255	440	..	3	..	..
Neth. Antilles	..	..	..	..	..	40	..	..	..	..	..
Norway	..	..	..	..	..	..	..	1,646	1,109	..	..
Palestine	..	..	..	..	..	..	110	..	..	..	..
Panama, Rep. of	..	..	..	..	..	..	60	..	..	..	..
Philippines, Rep. of	..	42	..	100	..	..	..	..	..	..	..
Poland and Danzig	..	..	..	..	..	..	..	..	312	..	..
Portugal	..	..	..	..	..	..	..	123	..	432	..
Tangier	..	..	..	..	..	33	80	22	..	66	..
Venezuela	274	60	..	93	100	294	20	12	8	111	21
U.S.S.R.	..	..	..	..	..	..	..	..	..	2,006	16,998
Other countries	53	1,473	3,144	1,032	27	..	12	44	..	..	137
Totals	3,223	*4,738	6,600	4,365	5,783	3,888	22,027	36,706	11,880	21,134	71,523
Lend Lease	..	..	..	..	..	..	..	..	1,540	19,096	71,024
UNRRA	..	..	..	..	..	..	..	..	..	580	..

Totals include UNRRA and Lend Lease exports but do not include shipments to U.S. armed forces abroad. *1953 total includes flour and durum wheat.

U.S. Exports of Feeds to Various Countries

Note: In tons. Source: Bureau of Census, U.S. Department of Commerce.

OTHER FEEDS

	1950	1951	1952	1953	1954
Iceland	1,597	1,317	100	240	117
U. K.	...	...	194	5,298	28,456
Canada†	4,374	3,596	6,095	4,090	5,157
Costa Rica	...	23	139	...	...
Belgium	184	372	200	10,971	8,056
Switzerland	...	200	...	946	217
Brazil	...	...	...	...	43
Pan. C. Z.	81	...	...	61	68
Panama, Rep. of	45	57	...	173	112
Mexico	36	71	152	165	180
Bermuda	...	37	...	6	...
Bahamas	157	39	...	135	31
Barbados	215	...	...	...	...
Denmark	446	...	220	981	483
Cuba	157	34	...	711	707
France	...	...	...	358	331
N. Antilles	...	...	...	37	...
Ecuador	62	...	...	...	...
Venezuela	131	366	531	1,774	2,301
Phil. Rep.	663	1,333	2,220	2,133	1,970
Italy	...	...	...	417	413
Saudi Arabia	...	120	253	87	3
Palestine (Israel)	1,896	...	...	1,789	2,289
Netherlands	...	...	533	8,031	4,398
Germany	...	...	221	1,471	228
Austria	...	...	...	...	282
Peru	...	49	...	...	...
Chile	...	90	...	101	...
Japan	...	...	...	211	2,163
Oth. countries	82	1,546	2,842	319	1,569
Totals	10,126	9,250	13,700	41,515	60,434

†Includes Newfoundland and Labrador.

MIXED DAIRY AND POULTRY FEEDS

		1953		1954	
	1952	Dairy	P'ltry	Dairy	P'ltry
Iceland	2,748	300	1,477	1,045	2,382
Italy	201	190	45	11	65
Canada†	...	44	106	140	101
Br. Honduras	...	10	29	...	...
Costa Rica	...	384	697	194	894
Guatemala	...	30	301	41	468
Honduras	...	...	3	...	...
Pan. C. Z.	181	639	38	478	94
Panama, Rep. of	1,769	185	1,950	48	1,791
Mexico	2,006	125	1,843	140	1,534
Bermuda	2,667	1,575	2,880	1,544	2,852
Bahamas	3,262	392	3,003	493	3,578
Jamaica	...	12	1,267	10	2,263
Trin. & Tob.	3,219	...	2,607	41	6,566
Barbados	...	...	269	...	226
Cuba	20,418	434	13,287	527	11,076
N. Antilles	5,149	527	6,001	5	3,898
F. W. Indies	...	...	115	8	49
Colombia	...	150	286	593	2,179
Peru	...	10	41	25	10
Venezuela	5,142	120	4,022	114	1,243
Phil. Rep.	2,116	...	2,417	80	2,084
Liberia	...	...	251	15	190
Surinam	...	14	320	8	421
Other countries	6,403	293	789	200	1,049
Totals	55,281	5,470	44,107	5,760	45,013

†Includes Newfoundland and Labrador.

OTHER PREPARED MIXED FEEDS

	1950	1951	1952	1953	1954
Brazil	27	16	...	...	...
Canada†	4,256	6,083	4,638	2,381	6,745
Costa Rica	325	94	...	25	76
Guatemala	...	...	...	65	63
Panama, Rep. of	130	...	113	184	279
Pan. C. Z.	356	63	...	223	234
Mexico	174	84	...	141	27
N. Antilles	80	12	...	88	333
Dom. Rep.	...	14	...	...	...
Colombia	...	...	...	10	493
Venezuela	653	442	1,087	922	340
Phil. Rep.	714	979	...	261	206
Honduras	37	...	...	...	...
Bermuda	221	83	1,392	1,037	429
Bahamas	395	86	...	64	78
Cuba	822	263	426	344	1,538
Palestine (Israel)	...	...	...	...	6
Netherlands	2,223	...	...	...	...
Trinidad	...	...	...	22	120
Denmark	18,439	13,917	...	...	...
France	151	105	...	...	...
Belgium	316	166	...	...	1
Japan	36	...	...	...	4
U. K.	67	379	...	28	88
Barbados	36	...	...	...	...
Iceland	617	256	...	...	188
India	617	...	...	...	...
Switzerland	27	10	...	50	22
Haiti	66	11	...	...	5
Other countries	10	1,421	2,021	249	426
Totals	19,974	24,484	9,677	6,094	11,701

†Includes Newfoundland and Labrador.

WHEAT FEEDS, BRAN, MIDDLINGS, ETC.

	1950	1951	1952	1953	1954
Canada†	816	...	...	...	30
Pan. C. Z.	...	...	...	100	...
Jamaica	800	...	...	...	...
Cuba	1,643	2,902	745	50	29
Dom. Rep.	...	54	...	...	...
Venezuela	759	137	882	566	1,004
Phil. Rep.	97	...	...	...	8
Barbados	287	...	...	...	...
Bermuda	1	...	...	...	...
Iceland	1,277	1,680	924	185	168
Bahamas	65	...	...	...	...
Oth. countries	29	496	2,093	90	68
Totals	5,709	5,269	4,644	991	1,307

†Includes Newfoundland and Labrador.

U.S. Millfeed Imports

Note: Bran, shorts and other by-product feeds, including feeds ground from bonded wheat, in tons. Source: Bureau of the Census, U.S. Department of Commerce.

	Withdrawn from bond	Direct importations	Total
1954	27,000	224,000	251,000
1953	30,000	217,000	247,000
1952	65,494	343,258	408,752
1951	187,000	121,000	308,000
1950	85,025	212,687	297,712
1949	41,400	148,499	189,899
1948	*	70,376	70,376
1947	5,459	47,480	52,939
1946	62,955	114,058	177,013
1945	82,570	52,431	135,001
1944	89,433	54,439	143,872
1943	68,366	87,398	155,764
1942	89,757	182,504	272,261
1941	89,048	335,099	424,147
1940	82,678	403,233	485,911
1939	117,662	341,295	458,957

*No milling in bond reported during 1948.

Wheat Breeding

During the past 25 years plant geneticists, generously assisted by the flour milling industry, have made great strides in breeding strains of wheat with desirable agronomic, pathologic and quality characteristics. From their laboratories and greenhouses, and from test plots, have come new varieties that have replaced such standby wheats as Marquis in the spring wheat area and Turkey Red in the hard winter wheat region.

Leading varieties of spring wheats—all of them products of the plant breeders—include Rival, Mida, Pilot, Regent, Newthatch, Cadet, Ceres and Reward. Winter wheat varieties, also "tailor-made" wheats, include Tenmarq, Cheyenne, Pawnee, Comanche, Nebred and Kawvale.

Through years of testing different pure varieties and charting the dominant recessive characteristics of each of the parents, plant breeders have been able to produce crosses for specific purposes. For instance, the scientists know which variety or strain will transmit resistance to certain strains of stem rust or leaf rust, and which will transmit its resistance to Hessian fly infestation.

Other factors that may be controlled by the plant breeders include maturity, stiffness of straw, resistance to winter-killing, earliness of maturity, gluten quality, length of straw, and resistance to shattering after maturity.

The wheat breeding program, formerly carried on independently by the state agricultural experiment stations, now is under the supervision of the division of cereal crops and diseases, Bureau of Plant Industry, U.S. Department of Agriculture. Coordination has made possible the interchange of fundamental facts dealing with the genetics of the wheat plant and multiple testing of new strains.

Stem and leaf rust plagues are no longer a menace to wheat production, because of the discoveries of the plant breeders, who have been able to replace susceptible varieties with rust resistant wheats.

First Mill in Boston

While the Plymouth settlers are known to have brought some wheat with them, the first mention of a mill to grind it is in Governor Winthrop's Journal in 1632, wherein he notes: "The windmill was brought down to Boston because where it stood near Newtown (Cambridge) it would not grind but with a westerly wind."

Ten years later, perhaps as a safeguard against uncertain winds, Boston offered an exclusive franchise to anyone who would build a tide-mill. Inland, power from streams already was beginning to be used to operate mills, the first water mill of record having been built at Dorchester in 1634. Both wheat growing and milling thereafter spread so rapidly that New England exported flour to other colonies and even to the West Indies.

Fisher's

THE largest and most modern flour mill and elevators on the Pacific Coast with storage capacity at our mills of 2,500,000 bushels, together with more than one hundred elevators and warehouses in the choicest milling wheat sections of Montana, Idaho and Washington, insure the uniformity of all Fisher's Flours.

FISHER FLOURING MILLS CO., SEATTLE, U.S.A.

Domestic and Export Millers

CLIFF H. MORRIS & CO. EASTERN REPRESENTATIVE, 25 Beaver Street, NEW YORK CITY

Regulations Covering Milling in Bond

The following summary gives the text of the sections of the U.S. tariff act of 1930 relating to the grinding of wheat in bond, and also brief notes as to the regulations of the Department of the Treasury in connection with the administration of these sections of the law.

Sec. 311. All articles manufactured in whole or in part of imported materials, or of materials subject to internal-revenue tax, and intended for exportation without being charged with duty, and without having an internal-revenue stamp affixed thereto, shall, under such regulations as the Secretary of the Treasury may prescribe, in order to be so manufactured and exported, be made and manufactured in bonded warehouses similar to those known and designated in Treasury Regulations as bonded warehouses, class six: Provided, That the manufacturer of such articles shall first give satisfactory bonds for the faithful observance of all the provisions of law and of such regulations as shall be prescribed by the Secretary of the Treasury: . . .

Whenever goods manufactured in any bonded warehouse established under the provisions of the preceding paragraph shall be exported directly therefrom or shall be duly laden for transportation and immediate exportation under the supervision of the proper officer who shall be duly designated for that purpose, such goods shall be exempt from duty and from the requirements relating to revenue stamps.

No flour, manufactured in a bonded manufacturing warehouse from wheat imported after 90 days after the date of the enactment of this Act, shall be withdrawn from such warehouse for exportation without payment of a duty on such imported wheat equal to any reduction in duty which by treaty will apply in respect to such flour in the country to which it is to be exported.

[Note.—An Act of Congress approved June 12, 1934, amends the Tariff Act of 1930 by adding thereto a new provision (Sec. 350) authorizing the President, among other things, to enter into trade agreements with foreign governments. The act of 1934, however, limited the President's authority to enter into foreign trade agreements to a period of three years from the date of the enactment of the act (that is, 3 years from June 12, 1934), but this authority has been extended from time to time and last such extension will expire June 12, 1955. A bill to provide for the further extension of the authority of the President in this respect is now before the Congress. Section 2 of the Act of 1934 relates in part to the application of the third paragraph of Section 311 quoted above. "The third paragraph of Section 311 of the Tariff Act of 1930 shall apply to any agreement concluded pursuant to this act to the extent only that such agreement assures to the U.S. a rate of duty on wheat flour produced in the U.S. which is preferential in respect to the lowest rate of duty imposed by the country with which such agreement has been concluded on like flour produced in any other country; and upon the withdrawal of wheat flour from bonded manufacturing warehouses for exportation to the country with which such agreement has been concluded, there shall be levied, collected and paid on the imported wheat used, a duty equal to the amount of such assured preference."]

Any materials used in the manufacture of such goods, and any packages, coverings, vessels, brands and labels used in putting up the same may, under the regulations of the Secretary of the Treasury, be conveyed without the payment of revenue tax or duty into any bonded manufacturing warehouse, and imported goods may, under the aforesaid regulations, be transferred without the exaction of duty from any bonded warehouse into any bonded manufacturing warehouse; but this privilege shall not be held to apply to implements, machinery, or apparatus to be used in the construction or repair of any bonded manufacturing warehouse or for the prosecution of the business carried on therein.

Articles or materials received into such bonded manufacturing warehouse or articles manufactured therefrom may be withdrawn or removed therefrom for direct shipment and exportation or for transportation and immediate exportation in bond to foreign countries or to the Philippine Islands under the supervision of the officer duly designated therefor by the collector of the port, who shall certify to such shipment and exportation, or ladening for transportation, as the case may be, describing the articles by their mark or otherwise, the quantity, the date of exportation, and the name of the vessel: Provided, That the by-products incident to the processes of manufacture, including waste derived from cleaning rice in bonded warehouses under the act of March 24, 1874, in said bonded warehouses may be withdrawn for domestic consumption on the payment of duty equal to the duty which would be assessed and collected by law if such waste or by-products were imported from a foreign country: Provided, That all waste material may be destroyed under government supervision. All labor performed and services rendered under these provisions shall be under the supervision of a duly designated officer of the customs and at the expense of the manufacturer.

A careful account shall be kept by the collector of all merchandise delivered by him to any bonded manufacturing warehouse, and a sworn monthly return, verified by the customs officers in charge, shall be made by the manufacturer containing a detailed statement of all imported merchandise used by him in the manufacture of exported articles.

Before commencing business the proprietor of any manufacturing warehouse shall file with the Secretary of the Treasury a list of all the articles intended to be manufactured in such warehouse, and state the formula of manufacture and the names and quantities of the ingredients to be used therein.

Articles manufactured under these provisions may be withdrawn under such regulations as the Secretary of the Treasury may prescribe for transportation and delivery into any bonded warehouse at an exterior port for the sole purpose of immediate export therefrom

The provisions of Section 3433 of the Revised Statutes shall, so far as may be practicable, apply to any bonded manufacturing warehouse established under this Act and to the merchandise conveyed therein.

Sec. 555. Bonded Warehouses. Buildings or parts of buildings and other inclosures may be designated by the Secretary of the Treasury as bonded warehouses for the storage of imported merchandise entered for warehousing, or taken possession of by the collector, or under seizure, or for the manufacture of merchandise in bond, or for the repacking, sorting or cleaning of imported merchandise. Such warehouses may be bonded for the storing of such merchandise only as shall belong or be consigned to the owners or proprietors thereof and be known as private bonded warehouses, or for the storage of imported merchandise generally and be known as public bonded warehouses. Before any imported merchandise not finally released from customs custody shall be stored in any such premises, the owner or lessee thereof shall give a bond in such sum and with such sureties as may be approved by the Secretary of the Treasury to secure the Government against any loss or expense connected with or arising from the deposit, storage or manipulation of merchandise in such warehouse. Except as otherwise provided in this Act, bonded warehouses shall be used solely for the storage of imported merchandise and shall be placed in charge of a proper officer of the customs, who, together with the proprietor thereof, shall have joint custody of all merchandise stored in the warehouse; and all labor on the merchandise so stored shall be performed by the owner or proprietor of the warehouse, under supervision of the officer of the customs in charge of the same, at the expense of the owner or proprietor. The compensation of such officer of the customs and other customs employees appointed to supervise the receipt of merchandise into any such warehouse and deliveries therefrom shall be reimbursed to the Government by the proprietor of such warehouse.

Owing to the many provisions and the changes in regulations prescribed by the Department of the Treasury for bonded manufacturing warehouses, any miller desiring to grind wheat in bond should apply to the nearest collector of customs or the Bureau of Customs, Washington, D.C., for the latest regulations on the subject.

Sales Contracts

The Millers National Federation Sales Contract, the Bakery Flour Contract and the Uniform Sales Contract of the National Association of Flour Distributors have appeared in previous issues of the Almanack and may be consulted there by those who have occasion to examine them. Copies may be obtained upon request to The Northwestern Miller or any of its branch offices.

USDA Estimate of Off-Farm Commercial Grain Storage Facilities

(In thousand bushels)

State—	1954 Estimated bulk storage	1954 Est. sack or other storage	1954 Estimated total storage	1951 Estimated total storage
Alabama	5,334	540	5,874	4,625
Arizona	11,943	2,108	14,051	7,450
Arkansas	37,774	2,038	39,812	28,950
California	78,328	65,776	144,104	116,234
Colorado	40,950	6,001	46,951	36,018
Connecticut	307	229	536	536
Delaware	3,665	106	3,771	1,434
Florida	1,709	4,852	6,561	5,455
Georgia	11,479	6,627	18,106	12,208
Idaho	37,191	12,579	49,770	39,783
Illinois	222,913	1,784	224,697	201,365
Indiana	55,939	395	56,334	48,958
Iowa	122,489	357	122,846	90,729
Kansas	331,430	1,040	332,470	206,948
Kentucky	24,720	3,085	27,805	17,596
Louisiana	18,092	23,653	41,745	36,561
Maine	1,980	45	2,025	2,025
Maryland	15,023	336	15,359	14,947
Massachusetts	3,559	994	4,553	4,445
Michigan	26,946	4,900	31,846	22,833
Minnesota	211,686	544	212,230	191,089
Mississippi	5,713	1,304	7,017	8,247
Missouri	117,932	1,639	119,571	90,609
Montana	33,524	976	34,500	30,656
Nebraska	123,478	3,003	126,481	69,057
Nevada	1,091	465	1,556	584
New Hampshire	346	665	1,011	969
New Jersey	7,616	712	8,328	8,328
New Mexico	9,068	1,630	9,698	9,412
New York	80,136	5,248	85,384	84,445
North Carolina	10,495	3,287	13,782	10,290
North Dakota	74,768	.....	74,768	63,476
Ohio	85,067	873	85,940	76,514
Oklahoma	137,773	1,460	139,233	96,157
Oregon	57,610	12,745	70,355	48,787
Pennsylvania	21,947	2,669	24,616	21,109
Rhode Island	31	103	134	138
South Carolina	3,203	857	4,060	3,000
South Dakota	36,586	20	36,606	27,551
Tennessee	17,522	3,202	20,724	16,182
Texas	257,025	32,937	289,962	217,481
Utah	12,885	2,713	15,598	15,228
Vermont	1,055	1,370	2,425	1,931
Virginia	7,881	2,667	10,548	8,350
Washington	124,336	8,672	133,008	90,674
West Virginia	596	127	723	734
Wisconsin	92,935	4,061	96,996	81,763
Wyoming	3,412	1,633	5,045	4,081
Total	2,586,788	233,037	2,819,815	2,175,942

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Australian Flour Production

Note: Years ended June, in short tons. Source: Bulletin of Australian Production Statistics.

July	171,000
August	149,000
September	141,000
October	134,000
November	140,000
December	119,000
January	121,000
February	108,000
March	125,000
April	116,000
May	147,000
June	130,000
1953-54	1,601,000
1952-53	1,720,800
1951-52	1,687,000
1950-51	1,696,000
1949-50	1,509,000
1948-49	1,679,000
1947-48	1,598,000

FILMS—MILLING INDUSTRY

ASSIGNMENT — GENERAL MILLS — **Sound, color, 17 min. A tour of General Mills plant in Minneapolis to show how the milling firm operates. Apply to: General Mills, Inc., 400 Second Ave. S., Minneapolis, Minn.**

GOLDEN GLORY—1 reel, 16 mm., sound, 30 min. Story of pioneer scientist, Mark Carleton's search for and discovery of a rust-resistant strain of wheat by Standard Brands, Inc. Apply to: **C. G. Harrel, Director, Dept. of Visual Education, American Society of Bakery Engineers, 208 Third Ave. S.E., Minneapolis, Minn.**

STEM RUST—Sound, color, 20 min. Story of a fungus disease that destroys grain. Shows how barberry bushes spread the disease. Film produced for U.S. Bureau of Entomology and Plant Quarantine. Apply to: **U.S. Department of Agriculture, Motion Picture Service, Office of Information, Washington 25, D.C.**

THE STORY OF WHEAT—16 mm. and 35 mm., sound, 10 min., 1 reel. History, growth, harvesting, preparation of wheat for its most important use as bread. Apply to: **Ideal Pictures Corp., 65 E. South Water St., Chicago 1, Ill.**

TURN THE SOIL—Sound, color, 15 min. Story of the Australian wheat industry, produced by the Australian Department of the Interior. Apply to: **Australian News and Information Bureau, 636 Fifth Ave., New York 20, N.Y.**

WHEAT—16 mm., silent, 1 reel. Evolution of wheat industry; pioneer farming, wheat farming with machinery, storing and marketing. Apply to: **Wholesale Film Service, Inc., 20 Melrose St., Boston, Mass.**

WHEAT: THE STAFF OF LIFE—16 mm., sound, color, 3 reels, 30 min. Complete story on growing, milling uses from germination to baking. Apply to: **American Museum of Natural History, 79th Central Park W., New York City, N.Y.**

WHEAT FARMER—16 mm., sound, black and white, 10 min. Life of wheat farmer and family; preparing soil, planting, other farm tasks; harvesting operations. Apply to: **Encyclopaedia Britannica Films, Inc., Wilmette, Ill.**

Foreign Flour and Grain Markets

United Kingdom Controls and Regulations on Imported Flour

After 14 years of Government Control, the imported flour trade was, in common with the grain and milling trades, decontrolled as from Sept. 1, 1953. Flour may now be freely imported into the U.K. by private traders from any source subject to the following conditions:

1. All importers must have applied for and received Open Individual Licenses. Separate Licenses are granted covering imports from (a) Countries within the sterling area; (b) Countries outside the sterling area. Weekly returns of purchases from all countries must be made to the Ministry of Food.

2. Payment for flour from countries outside the sterling area must comply with the Exchange Control Regulations.

3. The importation, production and sales of flour are governed by the Flour Order 1953 (No. 1282) which provides inter alia,

(a) All flour other than 100% wholemeal must have creta praeparata (of the technical specification set out in the Order) uniformly admixed into it at the rate of 14 oz. per 280 lb.

(b) Flours of an extraction rate of less than 80% must have the following nutrients added in sufficient quantity to insure a minimum content of: Iron, 1.65 milligrams per 100 grams flour; nicotinic acid, 1.60 milligrams per 100 grams flour; vitamin B_1, 0.24 milligram per 100 grams flour.

(c) National flour (bread baked solely from which flour is subsidized to such extent as to cause it to be sold at 7½d (8½¢) per 1¾ lb. loaf against the approximate average price of bread from lower extraction flours of 11d (13¢) per 1¾ lb. loaf) must comply with the following conditions:

(i) it shall contain the maximum quantity of wheat germ which, having regard to the type of milling, can be included in such flour;

(ii) it shall not include any coarse or added bran; and

(iii) it shall consist of wheat flour and shall either be of 80% extraction or shall be of substantially the same nature and contain substantially the same quantities and proportions of constituents as flour of 80% extraction.

4. Under the Ottawa Agreements of 1931 flour of Empire origin enters free of duty; flour of foreign origin is subject to an ad valorem duty of 10%.

5. Flour is normally purchased on the terms and conditions of the Contracts of the London Flour Trade Association, Ltd. For Canadian and USA flours the No. 1 C.I.F. Contract is specially provided. The association has also in use a C.I.F. Contract for Dominion Offals, No. 8.

Netherlands Import Flour Trade

Up to 1931 wheat and flour imports into Holland consisted of about 75% grain and 25% flour. Under free trading the Netherlands consumers preferred 25% imported flour and 75% home milled. In 1931 the government introduced a mixing-in law which reduced the possibilities for import flour. However, this Wheat Law of 1931 is no longer in force and the importation of flour is now only governed by the amount of allocations granted.

Methods of purchase — All Netherlands wheat flour purchases from the U.S. are financed by dollars provided by the Dutch government. The Dutch importers have obtained government approval to a plan for the division of such free dollars for flour among the individual importers, thus enabling them to resume buying direct from their mill connections in the U.S.

The importers concerned in the arrangement are registered with the Importbloembureau (Flour Import Bureau) and, through the government, with the International Wheat Council in London so that all their purchases are accepted on acount of the Dutch quota under the agreement. The Flour Import Bureau, with offices at Prins Hendrikkade 20/21, Amsterdam, maintains close contact with the government in all matters appertaining to the importation and distribution of flour and through it the imported flour business is still conducted under the general control of the government. As soon as the dollars allocated for wheat flour have been among the importers who are participating in the scheme, the government empowers the importers to start buying at their own discretion, although the prevailing shortage of dollars necessitates the making of certain restrictions. Shipments from the Gulf have to be made exclusively in conference steamers. The general buying conditions are c.i.f., final destination Rotterdam/Amsterdam at the option of buyers. Payment is made in New York through credits opened by the Nederlandse Handelmaatschappy N.V., for account of the individual importers in U.S. currency against a full set of "on board" bills of lading and commercial invoices, insurance policy, weight certificate and mill or official analysis certificate in duplicate. All contracts stipulate "freight collect, payable in Dutch currency" so that freight must be always deducted from invoice and is paid in Holland.

Quality—The importers are allowed to buy hard wheat flour and soft wheat flour of 72% extraction while in general such qualities may be bought which are essential for the special purposes for which imported flour is used in the Netherlands. All analyses are on a 14% moisture basis, while the flour is shipped in jute bags, normally bags of 50 kilos (110 lb.), and/or cotton (export cottons) bags of 50 kilos at buyers' option.

Terms of purchase—It has been agreed that all purchases in general will be made under the terms and rules of the Flour Contract of the London Flour Trade Assn. (Canadian and U.S. Flour Contracts) and that arbitration, if any, be in London. It is agreed that the price of all contracts is consistent with the wheat price specified in or determined under the International Wheat Agreement while sales can only be considered final when confirmed by the CCC and the Wheat Council.

Insurance—This is to be covered by the sellers who require from buyers a standing instruction to cover "all risks, including molest and risk of floating mines, exclusive weevil risks." This insurance should cover the risk from the time the goods leave the mill in the U.S. until the final destination in Holland.

Distribution of flour—This is made through the Flour Import Bureau by the importers who can sell the flour they have purchased, in accordance with prewar practice, to their baker customers and those sections of industry requiring imported flour. Imported flour is no longer rationed, the regulation requiring the surrender of coupons having been withdrawn in the fall of 1951.

Duty—The first 65,000 metric tons of flour imported into the Netherlands in any one year is free of duty but remaining imports bear a duty of 3%. Flour imported from all countries and not exclusively U.S. flour, ranks for relief from duty and any imports from other sources will accordingly lessen the requirements from U.S. mills.

The provisions detailed above are necessarily general and it is stressed that each importer has his own requirements concerning quality and certain other factors. Mills are recommended to communicate with their Dutch importing connections for clarification and for greater details.

Emmer

Emmer is a species (T. dicoccum) of wheat and is often incorrectly called "speltz." The kernels which remain enclosed in the glumes after threshing are red, long and slender, with both ends acute. It resembles spelt but is distinguished therefrom by the shorter denser spikes which are laterally compressed. The pedicel of emmer is shorter and narrower and is usually attached to the base of the spikelet which it bears, whereas in spelt the pedicel remains attached to the face of the next lower spikelet. The inner side of the spikelet is flat instead of arched, and the kernel usually is darker red than that of spelt. The acreage grown in the U.S. is about 100,000.

USE OF BREAD

Bread making or the preparation of loaves and cakes from flour or parched grain is one of the most ancient arts. At Wangen and also Robenhausen have been found the calcined remains of cakes made from coarsely ground grain in Swiss lake-dwellings that date back to the Stone Age. The cakes were made of different kinds of grain.

Quality

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Minneapolis, Minnesota

Danish Controls for Flour

The Danish government controls imports and exports through an institution known as "Varedirektoratet." The banks and money are controlled by Denmarks Nationalbank. No change in this situation is expected for the time being, although part of the total import has been freed in recent years. The import of flour is still under control.

Flour Imports—The import of flour into Denmark ceased at the outbreak of World War II. In the period 1950-53 limited quantities of flour were imported each year against the country's IWA quota. In 1953-54 the quota was not fulfilled and the only importation of flour was a limited amount from European countries. This was undertaken by individual importers under quotas fixed by Varedirektoratet.

Flour Buying Methods—The post-war import of flour has so far been undertaken by the Melbranchens Faellesindkob, a mutual buying organization formed by the Danish flour importers under an agreement with Danish authorities. When the M.F. is in the market offers are invited through Danish import agents. In prewar years flour imported to Denmark was sold by the foreign mills to the individual Danish importers direct or through Danish import agents. Terms of payment were as a rule: Cash against documents in Denmark. The flour was sold c.i.f. Danish ports and delivered in cotton bags of 100 kilos (220½ lb.) and 50 kilos (110¼ lb.). Prices were quoted for 100 kilos. Insurance cover was against "all risks". No specific contract form was used, but short sales contracts bore the usual strike clauses. Arbitration clauses also were included in the contract, some with buyer's option of arbitration either in New York or London; others, for arbitration in Copenhagen. It is hoped that eventually there will be a return to direct trading under such terms.

Flour Importers' Association—The interests of the flour agents for the flour importers are looked after and safeguarded by a flour importers' association known as "Foreningen af Danmarks Importører og Grossister i Melbranchen," whose officers are: president, Einer Madsen, Rud. Madsen, Copenhagen; vice president, Anton Sørensen, Skandinavisk Mel-Import, Copenhagen.

Flour Trade in Germany

Prewar—Imports of wheat flour into Germany were very small after 1927 due to a new duty tariff which was introduced in order to protect German agriculture and the German milling industry. Imports of flour after 1933 were practically nil because Germany was striving for self-sufficiency.

Postwar—In normal times Germany always produced sufficient wheat to cover her own requirements. Most agricultural products are produced in the eastern part of Germany which since the end of the war has been occupied by the Russians. None of the production of the Russian zone of Germany is being sent to the western part of Germany. In 1945 the Allies immediately started importing wheat and wheat flour into western Germany for the prevention of riots and epidemics. No details are available for the eastern zone.

Flour Imports—The following quantities of wheat and rye flour have been imported into Western Germany since the end of the war, in metric tons: 1945 approximately, 1.1 million; 1946 approximately, 1.3 million; 1947 approximately, 500,000; 1948 approximately, 250,000; 1949 approximately, 85,000; 1950 approximately, 8,000; 1951 up to Oct. 31 approximately, 150,000.

Up to 1949 practically all flour originated from the U.S. From then onwards several other countries joined in taking a share in flour imports to Germany as is shown by the following figures (in tons):

1949—U.S.A., 75,635; Hungary, 7,588; Canada, 35; Netherlands, 29; U.S.A. (rye flour), 2,024—total, 85,311.

1950—U.S.A., 6,061; Netherlands, 627; Hungary, 94; Sweden, 16; Denmark, 2; U.S.A. (rye flour), 1,200; Netherlands (rye flour), 13—total, 8,013.

1951 — U.S.A., 83,076; Australia, 34,686; France, 25,880; Argentina, 4,271; Hungary, 2,015; Belgium, 390; Canada, 196; Sweden, 69; Austria, 7; England, 5—total 150,498.

1952—Australia 8,000.

During 1952 the Australian Authorities endeavored to sell a further 4,500 tons flour to Germany, making acceptance of the flour a condition of a contract to supply wheat. The German government refused both the wheat and the flour on the grounds that acceptance of the terms would set a precedent and open the door to similar demands from the U.S. and Canada. No flour was imported during 1953 due to the refusal of the German authorities to grant import licenses. This refusal stemmed from a desire to protect the German home milling industry which is currently working at less than 40% of capacity.

In the fall of 1953 approximately 13,000 tons flour arrived from the U.S. as part of the eastern German relief scheme. When this program was discontinued the remaining flour was allocated to the western German mills for admixture with home produced supplies. Later arrivals, intended for the relief program, were also transferred to the mills.

During 1954 no flour was imported into Germany, other than intended for the Allied Armed Forces and for steamship lines working out of German ports.

Purchase and Distribution—While in the last years after the war the quantities of flour required were bought and handled by the U.S. Army and handed over for distribution to German importers, this system has been discontinued to the same extent as Germany's economy has gained a greater amount of independence. The distribution is still being handled by German official authorities, but the import is in certain cases already handled individually, especially for shipments from countries like France, Hungary, etc. As far as the import from the U.S. is concerned, however, the efforts on the part of the flour importers to introduce the system of individua. importing have so far been futile.

Prices—Up to 1948 the exact price which Germany had to pay for flour imports was unknown to the German public. Selling prices were fixed by the German board and Allied military government, respectively, and the inland selling price at that time was considerably below world market level. This situation has considerably changed in the meantime and at present the inland selling price is above world market level, although still fixed by the German authorities.

Flour Trade in Norway

The normal import of wheat flour into Norway in prewar days amounted to 35,000 to 40,000 tons annually and was mainly limited to protein-rich flour from the U.S., Canada and Great Britain, consisting of types which experience over a number of years had proved suitable to this market. The flour was bought by the Statens Kornforretning (State Grain Corporation) which, with the exception of two years free trade, 1927-29, has been the sole importer since 1915.

Imports in 1953 totaled 39,100 tons and in 1954 31,900 tons, all from the U.S. Norwegian requirements are currently limited to hard winter wheat flour with min. 10% protein and max. 0.70 ash.

Methods of Buying—The State Grain Corporation, when intending to buy, notifies the Norwegian flour agents who cable their connections for offers. Payment takes place by cash against documents in New York. All buying is done on f.a.s. basis, the buyer always providing for ocean freight. The buyer also covers war and marine insurance with Norwegian Underwriters. No special contract is used, years of experience having built up complete confidence between buyer and seller.

United Kingdom Wheat Imports

Note: In bushels.

Country of origin—	1952	1953	1954
Australia	16,688,936	17,388,568	11,484,272
Canada	103,377,072	104,180,216	73,272,848
Oth. British countries	32	3,968	1,112
U. S. A.	16,944,248	16,626,856	14,005,640
Oth. foreign countries	8,791,856	11,969,440	30,721,584
	145,802,144	150,169,048	129,505,456

United Kingdom Wheat Price

Note: By quarter of 480 lb. and per bushel of 60 lb.

	Per qr. £	s	d	Per bu.		Per qr. £	s	d	Per bu.
1954.	6	0	8	$2.11*	1943.	3	10	0	$2.10
1953.	6	13	11	2.35*	1942	3	8	3	2.04⅝
1952.	6	6	10	2.22*	1941	3	2	10	1.88½
1951.	6	2	5	2.15*	1940.	2	3	4	1.30
1950.	5	10	9	1.94	1939.	1	1	8	0.65
1949.	4	19	7	1.80	1938.	1	9	3	0.87¾
1948.	4	10	0	2.70	1937.	2	0	2	1.20½
1947.	3	11	9	2.15¼	1936.	1	11	1	0.93¼
1946.	3	3	3	1.50	1935.	1	2	5	0.67¼
1945.	3	1	3	1.85	1934.	1	0	8	0.62
1944.	3	4	3	1.92¾	1933.	1	2	11	0.68¾

*Exchange rate, $2.80 to £1.

United Kingdom Grain Imports

Note: Year ending Aug. 31. In bushels (000's omitted).

	Wheat	Corn	Oats	Barley
1954...	117,704	53,842	4,170	46,430
1953...	140,592	43,242	5,910	66,059
1952...	155,392	51,412	10,311	52,580
1951...	144,328	41,826	6,087	39,466
1950...	136,728	36,863	6,608	43,143
1949...	173,848	46,312	9,960	21,115
1948...	149,432	39,789	14,440	29,133
1947...	153,776	13,431	11,670	2,573
1946...	126,672	6,188	4,960	6,648
1945...	132,537	20,422	7,312	4,888
1944...	105,728	4,682	....	....
1943...	121,368	2,614	....	....
1942...	130,176	5,314	....	....
1941...	201,336	27,111	7	2,986
1940...	214,816	83,751	5,720	21,325
1939...	198,016	93,749	5,140	32,053
1938...	189,702	115,162	5,513	46,375
1937...	186,536	149,040	5,897	40,376

Statistics for the Republic of Ireland are not included.

United Kingdom Corn Imports

Note: In bushels.

Country of Origin—	1952	1953	1954
British Countries	1,653,664	4,274,164	5,467,184
Russia	9,100,522	701,034	.....
Rumania	622,076	1,485,902	1,181,856
U. S. A.	30,118,020	30,420,870	27,429,562
Argentina	5,081,584	16,266,198	15,290,442
Other foreign countries	8,319,074	2,068,038	2,936,204
	54,894,940	55,216,206	52,305,248

U.K. Wheat Products Imports

Note: In bbl.

Meal and flour Imported from	1952	1953	1954
Australia	1,041,895	1,368,325	269,850
Canada	4,666,772	4,028,640	3,698,598
Other British countries	310	469	480
Other foreign countries	10	92,935	154,583
	5,708,987	5,490,369	4,123,511

United Kingdom Wheat Acreage

Note: Total area under grain crops in England and Wales in 1943 and 1944 was greater than at any time since agricultural statistics were tabled. The maximum wartime acreage in wheat was the highest since 1874, in barley since 1901, in oats since 1919. The maximum wheat acreage was reached in the crisis year of 1943, viz: 3,461,000 acres.

Year—	(000's omitted) Area acres	Crops bu.	Yields per acre bu.
1954	2,447	99,591	40.7
1953	2,217	99,367	44.9
1952	2,029	86,051	42.4
1951	2,132	86,386	40.5
1950	2,476	94,173	38.0
1949	1,964	79,744	40.6
1948	2,279	85,160	37.3
1947	2,163	62,179	28.8
1946	2,066	68,696	33.3
1945	2,355	81,950	34.8
1944	3,230	118,160	36.6
1943	3,461	129,680	37.4
1942	2,516	96,480	38.3
1941	2,265	75,840	33.6

United Kingdom Imports

Note: Wheat and flour, by crop years, ending Aug. 31, 000's omitted.

	Wheat, bu.	Flour, bbl.	Total as wheat, bu.
1954	117,704	4,302	137,063
1953	140,592	6,033	167,741
1952	155,392	4,959	177,708
1951	144,328	6,081	171,692
1950	136,728	4,780	158,238
1949	173,848	8,239	210,924
1948	149,432	9,061	190,207
1947	153,776	8,621	192,570
1946	126,672	7,214	159,135
1945	132,537	6,204	160,455
1944	105,728	9,047	146,439
1943	121,368	8,201	158,272
1942	130,176	4,265	149,368
1941	201,326	8,090	238,241
1940	214,816	6,598	244,507
1939	198,016	4,190	216,871
1938	189,702	4,387	209,443

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Canadian Mill Wages

Note: In 1954 as specified under union contracts in force in large mills. (Figures for small country mills are lower.) Source: The Northwestern Miller.

Millwrights	$1.48@1.80
Electricians	1.48@1.80
Bolters and grinders	1.48@1.79
Packers	...@ ...
Elevator help	1.28@1.47
General help	1.28@1.42
Watchmen	1.28@1.42

Foreign Mill Capacity

Note: The flour milling capacity of European and other foreign countries as shown in the following table covers the more important mills in each country where figures are available.

	No. of mills	Est. daily cap., sacks
Belgium	118	103,752
Bulgaria	400	56,358
Czechoslovakia	837	202,888
Denmark	70	.....
France	2,545	658,560
Greece	234	71,496
Holland	90	67,728
Italy	567	95,688
Portugal	110	72,024
Norway	....	42,777
Rumania	314	138,276
Spain	750	34,056
U. K. (inc. Eire)	400	475,776
Sweden	450	....
Yugoslavia	900	120,960
Australia	200	7,616
New Zealand	50	560
Palestine	50	627
South Africa	75	2,576
Syria	25	336

*Estimated total capacity in 100-lb. sacks per hour.

Figures not available for Finland, Germany, Hungary, Switzerland and U. S. S. R.

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Harry K. Barr, President

Uniform Export Package Differentials
Flour Millers' Export Association

The following list of export package differentials has been issued by the Flour Millers Export Assn. and is effective June 15, 1954:

(All Differentials per 100 lb.)

100-lb. single osna.	36x43 2.35 yd. osna.	basis
100-lb. single osna.	40x41 2.11 yd. osna.	.02 over
100-lb. single jute	40x41 10½ oz. common	.11 under
100-lb. double osna.	40x41 in. 40x41 2.11 yd. osna.	.39 over
100-lb. cot. over cot.	36x43 4.00 yd. br. in. 36x44 2.85 yd. br.	.26 over
100-lb. jute over osna.	40x41 2.11 yd. osna. in. 40x42 10 oz. jute	.24 over
100-lb. jute over cot.	40x42 2.50 yd. br. in. 40x53 10 oz. jute	.26 over
100-lb. jute over cot.	36x43 4.00 yd. br. in. 36x44 10 oz. jute	.15 over
100-lb. osna. over cot.	40x42 2.50 yd. br. in. 40x42 2.11 yd. osna.	.40 over
100-lb. osna. over cot.	36x43 4.00 yd. br. in. 36x43 2.35 yd. osna.	.28 over
100-lb. single drill	30x51 2.50 yd. drill	.09 over
200-lb. single osna.	30x80 2.35 yd. osna.	.03 under
200-lb. osna. over cot.	40x59 2.85 yd. br. in. 30x80 2.35 yd. osna.	.21 over
140-lb. single osna.	40x48 2.11 yd. osna.	.05 under
140-lb. single jute	40x49 10½ oz. common	.15 under
125-lb. jute over osna.	40x45 2.11 yd. osna. in. 40x46 10½ oz. jute	.19 over
125-lb. jute over jute	40x46 in. 40x46 10½ oz. common	.08 over
50 kilos single jute	36x46 10 oz. common	.14 under
50 kilos single osna.	36x45 2.35 yd. osna.	.03 under
100-lb. single cottons	36x43 4.00 yd. brown	.07 under
50-lb. single cottons	31x33 5.00 yd. brown	.12 over
50-lb. single osna. (sq.)	30x34 2.35 yd. osna.	.31 over
50-lb. single osna. (long)	36x28 2.35 yd. osna.	.23 over
Jute bale 20 5-lb. cot.	15x16 5.00 yd. br. in. 40x51 10 oz. jute	1.47 over
Osna. bale 20 5-lb. cot.	15x16 5.00 yd. br. in. 40x50 2.11 yd. osna.	1.65 over
Jute bale 10 10-lb. cot.	18x21 4.00 yd. br. in. 40x51 10 oz. jute	.96 over
Osna. bale 10 10-lb. cot.	18x21 4.00 yd. br. in. 40x50 2.11 yd. osna.	1.13 over
Jute bale 4 25-lb. cot.	26x27 6.90 yd. br. in. 40x53 10 oz. jute	.59 over
Osna. bale 4 25-lb. cot.	26x27 6.90 yd. br. in. 40x52 2.11 yd. osna.	.77 over
Jute bale 6 25-lb. cot.	26x27 6.90 yd. br. in. 40x59 10 oz. jute	.55 over
Osna. bale 6 25-lb. cot.	26x27 6.90 yd. br. in. 40x58 2.11 yd. osna.	.69 over
Jute bale 8 25-lb. cot.	26x27 6.90 yd. br. in. 45x62 10 oz. jute	.52 over
Osna bale 8 25-lb. cot.	26x27 6.90 yd. br. in. 30x90 2.35 yd. osna.	.68 over
Jute bale 2 50-lb. cot.	31x33 5.00 yd. br. in. 36x56 10 oz. jute	.44 over
Osna. bale 2 50-lb. cot.	31x33 5.00 yd. br. in. 36x55 2.35 yd. osna.	.60 over
Jute bale 3 50-lb. cot.	31x33 5.00 yd. br. in. 40x60 10 oz. jute	.38 over
Osna. bale 3 50-lb. cot.	31x33 5.00 yd. br. in. 40x59 2.11 yd. osna.	.52 over
Jute bale 4 50-lb. cot.	31x33 5.00 yd. br. in. 45x62 10 oz. jute	.36 over
Osna. bale 4 50-lb. cot.	31x33 5.00 yd. br. in. 50x90 2.35 yd. osna.	.52 over
70-lb. osna.	36x37 2.35 yd. osna.	.11 over
70-lb. cotton	36x37 2.85 yd. brown	.11 over
70-lb. jute	36x38 10-oz. common	.02 under
70-lb. jute over cotton	36x38 10-oz. com. over 36x37 4.00 yd. brown	.30 over
70-lb. jute over osna.	36x38 10-oz. com. over 36x37 2.35 yd. osna.	.37 over
Jute bale 2 70-lb. osna.	40x60 10-oz. com. over 36x37 2.35 yd. osna.	.33 over
Jute bale 2 70-lb. cot.	40x60 10-oz. com. over 36x37 2.85 yd. brown	.33 over

Jute: Prices are for lots of 1,000 printed on one side in one color black. Printing charges ($13.50/M) printing included on outer bag only.

Cotton and osnaburg: Prices are for lots of 1,000 printed on one side in one color black. Printing charges $12.50.

Basis: Bemis Bro. Bag Co., l.c.l. burlap bag basis of April 21, 1954. Basis: Bemis Bro. Bag Co., Cotton Bag Price List 4 of April 6, 1954, for Minnesota, Iowa and Wisconsin.

P.E. liner only for 20 5-lb. cottons, 21x44, .002 mil	12¢ each
P.E. liner only for 10 10-lb. cottons, 21x44, .002 mil	12¢ each
P.E. liner only for 2 50-lb. cottons, 28x38, .002 mil	15¢ each
P.E. liner only for 100-lb. cottons, 21x40, .002 mil	15¢ each

Recommend 5¢ per cwt. additional labor charge for insertion and closing P.E. liners.

Uniform Flour Export Trade Terms

Note: Adopted by Flour Millers Export Assn. effective January 1, 1954.

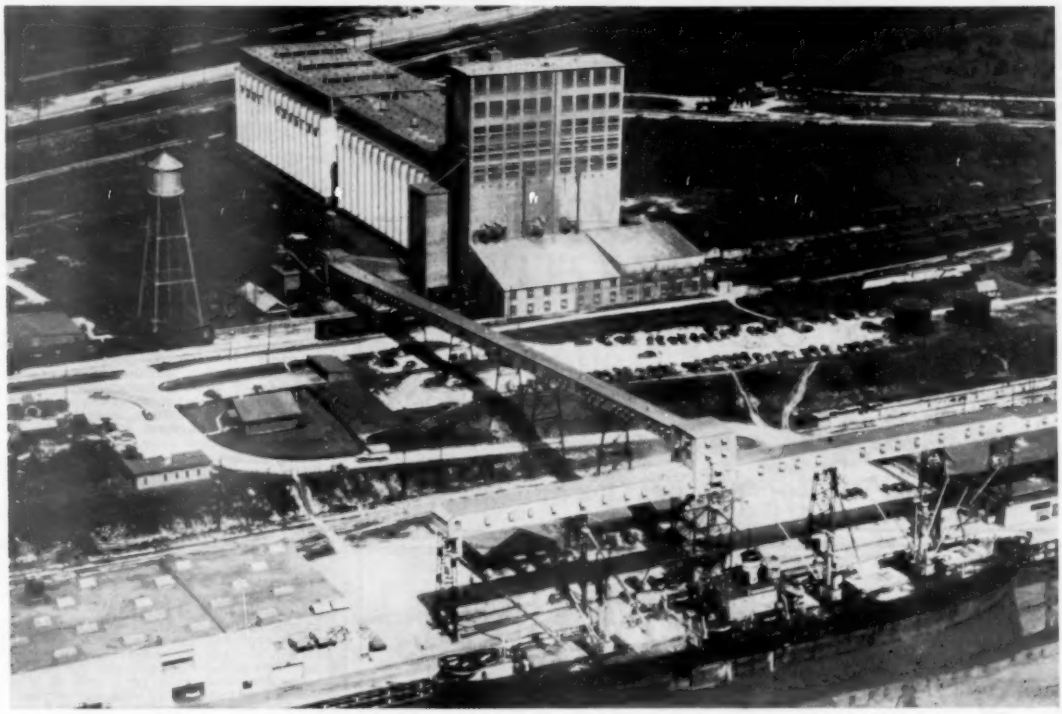
UNIFORM COMMISSIONS, PREMIUMS AND DISCOUNTS

(All Per Cental)

Country	Maximum Commission	Basic Terms	Optional Terms	Premium	Discount
Bolivia	12½¢	Cash or irrevocable credit before shipment	Sight draft (D. P.) (not recommended)	2%	
Brazil	12½¢	Sight Draft (D. P.)	Cash before shipment		1¼%
Colombia	12½¢	Sight Draft (D. P.)	Cash before shipment		1½%
Costa Rica	12½¢	Sight Draft (D. P.)	Cash before shipment		1½%
Cuba	12½¢	Sight Draft (D. P.)	45 days date	1%	
			Cash before shipment or Letter of Credit for payment at sight		1%
			Letter of Credit for payment at 60 days		½%
Dom. Rep.	12½¢	Sight Draft (D. P.)	Cash before shipment		1¼%
Ecuador	12½¢	Sight Draft (D. P.)	Cash before shipment		1½%
El Salvador	12½¢	Sight Draft (D. P.)	Cash before shipment		1¾%
			45 days date	1%	
Guatemala	12½¢	Sight Draft (D. P.)	Cash before shipment		1¾%
			45 days date	1%	
Haiti	15¢	Sight Draft (D. P.)	Cash before shipment		1½%
			45 days date	1½%	
Honduras	12½¢	Sight Draft (D. P.)	Cash before shipment		1¼%
			45 days date	1%	
Nicaragua	12½¢	Sight Draft (D. P.)	Cash before shipment		2%
Panama	12½¢	Sight Draft (D. P.)	Cash before shipment		1¼%
			45 days date	1%	
Peru	12½¢	Sight Draft (D. P.)	Cash before shipment		1¼%
Venezuela	17½¢*	60 days date	Sight Draft		3%
			Cash before shipment or Letter of Credit providing for payment at sight		4½%

NOTE: "D. P." means "Documents against Payment."

THINGS ARE HUMMING AT THE PORT OF HOUSTON



Ship Loading At Houston
Public Grain Elevator

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We are grateful for this patronage, and pledge our best efforts to serve all parties concerned.

The Houston Public Grain Elevator is located on the North side of the Ship Channel. Rail service is provided by the Port Terminal Railroad Association.

Storage capacity, 3,500,000 bushels; unloading capacity, 35,000 bushels an hour; ship loading capacity, 80,000 bushels an hour.

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CHARLES A. BARROWS
Mid-Western Representative
Board of Trade Building
Kansas City, Missouri

PORT of HOUSTON

Harris County,
Houston Ship Channel
Navigation District

Bleaching Regulations in Foreign Countries

Source: U.S. Dept. of Commerce

Australia—Each state of the Commonwealth enacts its own food laws and regulations, resulting in variations with regard to flour bleaching; e.g., South Australia does not permit chemical bleaching of flour, but New South Wales permits bleaching by the electric process only.

Belgian Congo—There are no local regulations governing chemical improvers and bleaching. These processes are not used in the locally milled flour but are present in the imported flour which accounts for 95% or more of the consumption.

Belgium—Bleaching is entirely prohibited by a royal decree of June 15, 1923.

Brazil—Bleaching of flours is not permitted under the law but most imported flours have been bleached to some extent. Flours milled in Brazil are not bleached.

Bulgaria — Bleaching is permissible if wholesome agents are used.

Canada—Bleaching is permitted. Non-injurious ingredients may be added for modifying the color or baking properties; provided that, in the case of the addition of non-injurious ingredients, there must be stated clearly and conspicuously upon both the inner and the outer labels of all packages containing flour, so modified, the statement "This flour contains improvers."

Chile—Bleaching is permitted only by chemical methods authorized by the Direccion General de Sanidad. Regulations permit a maximum of 0.747% sulphuric acid and 2% of nitrogenous materials in bleached flour.

Colombia — Bleaching is permitted; no regulations control the process.

Costa Rica—There are no regulations regarding the bleaching of flour, except that flours which circulate in commerce must not be bleached by harmful methods.

Cuba—Bleached flour may be imported into Cuba without restriction. The Cuban Sanitary Regulations provide that "Ordinary bread destined for public sale must be made from wheat flour recently made without any added material or signs of deterioration and without having been submitted to any process of bleaching for the purpose of disguising the time of milling." Efforts have been made to have the government interpret this regulation as a prohibition against the use of bleached flour. However, the government has refused to accept this interpretation and states that bleaching is only prohibited when it is done for the purpose of hiding the date of milling and for making old, deteriorated flour appear of good quality.

Denmark—Flour containing persulphate is prohibited.

Ecuador—There are no regulations either prohibiting or permitting the importation or use of bleached flour.

Eire—There is no prohibition on the use of chemical improvers and bleachers of which the following are those principally used: nitrogen peroxide, chlorine, nitrogen trichloride, benzoyl peroxide, ammonium persulphate and acid calcium phosphate.

Formosa (Taiwan)—The Nationalist Government has no laws or regulations on bleaching. Bleaching by the Alsop process is practiced in many mills.

France — Legislation does not mention specifically that bleaching of flour is forbidden. It is considered that the legislation forbidding the use of chemical products in flour effectively establishes such prohibition.

French West Indies—While French legislation does not mention specifically that bleaching of flour is forbidden, it is considered that the legislation forbidding the use of chemical products in flour effectively establishes such prohibition.

Germany—All forms are permitted.

Greece—Preparations based on the salts of sulphate and supersulphate of ammonia or of lime, as well as other chemicals, used for bleaching flour, are prohibited.

Guatemala—The Sanitary Code does not specifically mention the use of bleaching materials in flour. However, it states that the "Adulteration of the natural properties of foods, beverages and similar products is prohibited, as is also coloration with poisonous or harmful products, whether their toxic or harmful effect is direct or indirect."

Hong Kong—No regulations are involved; whether the flour is bleached or unbleached is not of consequence under the Pure Foods Regulations. It is a matter between the individual buyer and the mill or export merchant source of supply.

India—Provincial government regulations forbid adulteration of wheat flour but do not forbid bleaching.

Italy—Bleaching of flour is allowed; no specific regulations as to permitted agents or amounts.

Netherlands—Bleaching of flour is permitted provided the bleached product does not contain any harmful ingredient. However, there may be present in 100 milograms of wheat flour 20 grams of a mixture consisting of 3.5 grams of benzoyl peroxide and 16.5 grams of calcium phosphate. Other agents allowed are: 2 grams of orthoand metatoluye peroxide, mixed with 25 grams of wheat grits or with 12 grams of calcium phosphate; 25 grams of a mixture of equal parts of ammonium persulphate and calcium phosphate; and 5 grams of ascorbic acid.

New Zealand—Flour must not be artificially bleached.

Pakistan—As patents exist for bleaching and maturing the flour it can be presumed that bleaching in Pakistan is practiced to a certain extent.

Peru—Laws of the municipality of Lima prohibit bleaching. No other regulations are known to exist.

Philippines — Regulations pertaining to bleaching are the same as those in the U.S.

Portugal—No information is available on bleaching flour.

Spain—Regulations do not permit the bleaching of flour with any kind of whitening substances but "in some parts of Spain flour is bleached by subjecting it to rays of artificial light for a certain length of time."

Sweden—Bleaching is permitted with the exception of the use of persulphate.

Switzerland—Bleaching is prohibited.

Union of South Africa—Flour milled in the Union may be treated only with peroxide of nitrogen generated by electricity, the treatment being regulated and restricted so that the total nitrates (estimated as sodium nitrate) in the treated flour shall not exceed six parts per million. The use of other bleaching agents or so called improvers is prohibited.

Turkey—No bleaching of flour is allowed.

Venezuela—There appear to be no regulations regarding the bleaching of flour except that the flour must not be bleached by bromates, persulphates and other oxidizers that may contribute to its breadmaking value.

A. RUOFF & CO. N.V.

Established 1855

Flour, Grain and Feed

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Coolsingel 65,

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Holland

Cable Address: "Rurodam," Rotterdam

N.V. MEELUNIE

[Flour Union Ltd.]

Herengracht 209
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Netherlands

Board of directors: Dirk J. Glasz
Thys P. Glasz
Managing director: Jaap S. Wiegersma
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References: The Northwestern Miller
Guaranty Trust Co. of New York, N.Y.

Foreign Regulations Governing Self-Rising Flour

Source: U.S. Dept. of Commerce

Belgium and Luxembourg—There is no objection to the sale of self-rising flour which contains baking powder or other leavening preparations, provided the leavening agents are not considered detrimental to public health. No certificates of analysis or quality are required.

Brazil—There is no objection to self-rising flour. However, the leavening agent must conform to the regulations on the subject. The pure food law prohibits the importation and sale of food preparations containing salts of aluminum, thus limiting the leavening agents that may be used in self-rising flour to the cream of tartar type.

Bulgaria—Self-rising flour is permissible insofar as it does not contain any harmful leavening agents.

Canada—Self-rising flour may contain baking powder but must be so marked.

Chile—There are no regulations governing or prohibiting the sale of self-rising flour.

Colombia—There are no restrictions on self-rising flour or the use of particular leavening agents.

Costa Rica—There appear to be no restrictions on self-rising flour.

Cuba—The importation of self-rising flour is not prohibited. The Department of Sanitation has prohibited the importation of certain types of baking powder which contain alum, aluminum sulphate and similar compounds.

Ecuador—There is no prohibition on the importation of self-rising flour. There are no regulations on the type of leavening permitted except that all food products imported into Ecuador must not be injurious to health. Fresh yeast destined solely for the baking industry should be accompanied by an official certificate of purity issued at the place of origin and authenticated by the Ecuadoran Consul at the port of embarkation.

France—Legislation does not mention specifically that the sale of self-rising flour is forbidden, but it is considered that the legislation forbidding the use of chemical products in flour effectively established such prohibition.

French West Indies—Sale of self-rising flour is effectively forbidden by the decree of April 16, 1912, which prohibits the use of chemical products in foodstuffs. Grocers are allowed to sell chemical leavening agents for family use in the making of pastry. Bakers and pastry shops are not allowed to use self-rising flour nor to sell this product.

Greece—"Flour shall not be altered in any way nor deteriorated and shall be free of any adulteration to conceal its alteration or to make it appear as a flour of superior quality." This provision is interpreted as meaning that inclusion of baking powder and other leavening preparations in the flour is not permitted.

Guatemala—The Sanitary Code does not specifically mention any type of flour or leavening. There has apparently been no restriction on the importation of yeast and baking powder since Nov. 18, 1931, when bakery regulations were amended to leave out the provision prohibiting "the use of all imported yeast and baking powder."

Italy—The importation or sale of wheat flour containing any foreign substance whatsoever is prohibited. This provision prevents the importation of self-rising flour. The exact substances prohibited are "mineral substances, such as alum, copper sulphate, zinc sulphate, talc, chalk, gypsum or in any way adulterated with extraneous powders." However, special pastry or confectionery flour and pancake flours in small packages are not considered as falling under this prohibition, the customs having ruled that such flours be classed for customs purposes as "starches and flours specially prepared, or simply put up in small containers or packages of any kind for alimentary use," with about five times as high a duty as ordinary wheat flour.

Netherlands—Self-rising flour may be imported and sold under monopoly control provided the leavening agent is not one forbidden by law. (Self-rising flour must contain not more than 10 grams of starch and not over 3 grams of a harmless leaven to 100 grams of bolted flour.)

New Zealand—Self-rising flour is flour to which the ingredients of baking powder have been added. It must liberate not less than 1.64 parts per centum by weight of carbon dioxide when moistened and heated, and it must contain not more than 1/10 of one part per centum of sulphates calculated as calcium sulphate. It must not contain any other added substance.

Peru—There are no regulations governing or prohibiting the sale of self-rising flour.

Portugal—Self-rising flour must not contain any harmful leavening agents. Alum baking powders are not permitted.

Spain—Self-rising flours containing baking powder or other leavening agents may be sold in Spain provided they are designated as food preparations and contain no harmful substances.

Sweden—There are no regulations forbidding the use of self-rising flours which include baking powder or other leavening preparations, but these must be sold with declarations as to contents in order to avoid penalty.

Switzerland—Self-rising flour must contain no combinations of ammonia (with the exception of carbonate of ammonia), nor combinations of aluminum, nor substances which release oxygen, such as perchlorates and chlorates, perbromates and bromates, persulphates, etc., nor even sulphates, oxcarbonate of lime, insoluble phosphates, alic acid, soap or mineral substances (argil, infusorial earth or sand).

Union of South Africa—Self-rising flour means the pure, sound product from the milling of wheat with the addition of an aerating agent and is sufficiently fine to pass through a silk bolting cloth with an aperture measurement of .0002 inch with 82 meshes per linear inch. Only one grade of self-rising flour is recognized, "which shall have an ash content of not less than 0.47% and not more than 0.55% by weight excluding the ash content of the aerating agent; provided that self-rising flour which on test shows an ash content not more than 0.01 below the minimum or above the maximum ash content prescribed shall be deemed to comply with the ash content requirements for self-rising flour." Self-rising flour must be packed in paper or carton containers containing 1, 2, or 3 lbs. net weight of such flour.

Venezuela—There appear to be no restrictions on self-rising flour. In general, food products offered for sale which contain components, must so state that fact on the label.

Yugoslavia—Only such leavening agents are permitted which are found to contain a normal power of fermentation and are not mixed with chalk, plaster, saccharine or "other matters harmful to health."

Established 1868

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Flour Package Laws of Foreign Countries

The Office of International Trade, U.S. Department of Commerce, has supplied the following information on flour package laws in foreign countries:

Brazil—Bags containing merchandise must be marked diagonally on both sides with indelible ink and in characters at least 15 centimeters high. If the bags are not properly marked, a separate import duty is levied on the bags. Products of U.S. origin are exempt from the requirement for marking bags with indelible ink.

British West Africa (Gold Coast, Nigeria, Sierra Leone and Gambia)—There are no specific regulations governing the packaging of imported flour or cereals in British West Africa, except where packaged foodstuffs are to be sold at retail by net weight, the label should carry the net weight. Flour is usually imported into that Colony and Protectorate in bags varying from 14 to 98 lb. A certain amount of flour in small tins of 3, 4 or 7 lb. weight each is imported largely for the European trade. Packaging customs are likely to be more or less uniform through the four territories comprising British West Africa. Good packing is essential to protect contents against tropical climatic conditions, pilferage and very rough handling. Outside packing should be strong and all goods which may be affected by water should be protected by tin-lined cases or water-proof packing.

Canada—Imports very little flour. It is all border trade, and no standard package is used.

Chile—There are no regulations governing the packaging of wheat flour. However, the tariff provides only for the importation of flour in packages of more than 5 kilograms net weight.

Colombia—There are no regulations governing the packaging of wheat flour.

Costa Rica—There are no regulations regarding size or kind of bag or other container in the packaging of flour except that the importation of products packed in used bags is prohibited.

Cuba—There are no regulations governing the packaging of flour. However, wheat flour is customarily imported into Cuba in 200-lb. bags.

Ecuador—Most popular type of container used is the 100-lb. jute bag with cotton liner. Also popular is the 50-lb. bag with cotton liner. There is no special requirement regarding size of bag or fabric. All flour shipped to Ecuador must be accompanied by a certificate of analysis by the competent authority of the place of origin, which has been authenticated by the Ecuadoran Consul at the port of embarkation, without prejudice to the right of the customs authorities to verify, when they see fit, the correctness of the analysis.

Egypt—Misbranded products imported for sale are prohibited. An indication of the country of origin or place of manufacture must be shown. Blended flour (farine milangie) must be labeled "farine milangie" written in Arabic characters at least 3 cm. in height on the container or on a label glued on or hermetically attached to the package.

Formosa (Taiwan)—Shipments should be made in 49-lb cloth bags.

Gibraltar and Malta—There are no official regulations governing the packaging of imported flour or cereal products. In Malta, markings on labels or containers which are misleading as to description and origin of goods, are illegal. No information is available on the customary weights of imported packages. The usual export packing is required for shipment.

Guatemala—Packaging requirements in the Sanitary Code do not specify size or kind of bags or other containers in which flour may be imported. The code states "In the manufacture, packing and preservation of foods, beverages and similar products, the use of receptacles is prohibited which have been painted, varnished, tinned or glazed with poisonous or injurious substances which may alter the foods, beverages and similar products." Customary export packing is suggested for goods shipped by way of the Atlantic port of Puerto Barrios, which has excellent wharf facilities. However, for goods shipped by way of San Jose or Champerico, packing should be strong enough to withstand rough handling because goods are lightered from ships in an open roadstead. Customs duties with a few exceptions are based on weight, and to avoid payment of excess customs duties, it is important that care should be taken in following packing instructions given the exporter by the importer.

Hong Kong—Bags most frequently used are 49-lb. cloth bags. Since relative humidity frequently reaches 98%, cereals should be packed so as to afford maximum protection against moisture.

India—India requires an indication of the country of origin if any English words appear on the bag or package. The lettering should be large and conspicuous.

Indonesia—The 49-lb. sack is customary; larger sacks are not generally acceptable; cotton sacks preferred. Weight of cotton sacks is regulated; 50 and 68 kilo sacks also used.

Iraq—There are no specific requirements for indicating country of origin on imported goods but this is highly desirable and there are no special labeling or marking requirements. Normally the marks should show the initials of the importer and the city to which it is destined. Packing should be particularly strong because of the rough handling of merchandise at the Port of Basra.

Italy—No regulations govern the size of packages which may be offered for sale. Marking packages to show weight or origin is not necessary. No certificates of analysis or quality are required.

Pakistan—Same as India.

Peru—There are no regulations governing the packaging of wheat flour.

Philippines—The principal label must indicate quantity and country of origin and it is imperative that packings afford maximum protection against excessive heat and moisture.

Portugal—Type of container in most demand is the bag; size being controlled by rationing in force at the time. There are no special requirements for marking packages to show gross net weight of the flour or the country of origin.

Saudi Arabia—Packing should be heavy enough to withstand the roughest handling and to baffle the most skillful and ingenious pilferage to which shipments are exposed both in transit and upon arrival. Although some imports are subject to duties levied on gross weight, considerations of safety are more important than savings in duty and shipping charges. Goods must pass through the excessive heat and dampness of the Red Sea and other tropical waters and as a result, packages are subject to considerable sweating in the holds of vessels and to exposure to sun and rain on the wharves. Waterproofing is strongly recommended. No special labeling or marking is required.

Spain—Type of container in most demand for flour is the jute sack, made of fibers from Corchorus olitorius or Corchorus capsularis, technically known as "68,118," with a capacity of 100 kilos.

Union of South Africa—Flour, meal and semolina must be packed in one or other of the following packings: Jute containers containing 100 lb. or 200 lb. net weight; cotton containers containing either 5, 10, 25, 50, or 100 lb. net weight. Paper containers made of single-ply pure bleached kraft paper, of a minimum weight of 112 grammes per square meter, containing 5 lbs. net weight; provided that—(a) semolina may be packed in carton containers containing 1, 2, or 3 lb. net weight; (b) self-rising flour must be packed in paper or carton containers of 1, 2, or 3 lb. net weight.

Venezuela — Packaging requirements do not specify size or kind of bag or container; however, foods intended for human consumption may not be packaged in paper, cardboard, cloth or other materials which are colored with artificial colorings, nor in newspapers or other paper which is not adequate. Nevertheless such materials may be authorized for use as secondary wrappings or when they are of such nature that the coloring of the inscription on the exterior surface cannot modify or render injurious the foodstuffs contained in the opinion of the health authorities. Prepared flours which are sold in closed or sealed containers, must be labeled, prior to sale, to show the net metric weight of contents, superimposed on the non-metric marking which the original imported package may have carried. Shipments of flour must be accompanied by a certificate issued by the Bureau of Entomology and Plant Quarantine, U.S. Department of Agriculture, stating that the flour is free from harmful pests and diseases. Wheat flour is included in the coverage of new Venezuelan food labeling regulations, effective November 30, 1953, which require on all foods and beverages the following information in the Spanish language:

(a) Common name of the product.
(b) Name and address of the manufacturer, broker or exporter. (This is interpreted as the name of the company responsible for the product. The address may be the address of the company's incorporation rather than the location of its packing plant.)
(c) List of ingredients in descending order of value.
(d) Net weight in the metric system.
(e) The phrase "Registrado en el Ministerio de Sanidad y Asistencia Social bajo el No.—" (which means "Registered in the Ministry of Health under No.—").

[It is understood that the Ministry of Health considers flour in 100-pound bags, shipped to a Venezeulan manufacturing plant, as a processed food and subject to the Venezuelan food registration and labeling regulations.]

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Flour Bleaching and Maturing

Wheat flour, in its natural, freshly-milled state, contains very small quantities of yellow pigments which impart a definite creamy yellow hue to it. The concentration of these pigments varies from about 1.8 to 3.8 p.p.m., depending upon the nature of the wheat and the grade of the flour. In general, durum and hard red winter wheat flours and the lower grade flours are of highest pigment content.

If flour is aged it will slowly improve in color from natural causes, also ageing causes other changes (called maturing) to occur which result in an improvement in baking quality. New crop flour frequently is so immature that it is unfit for use until it has been stored for some time.

In modern practice, these aging benefits are immediately accomplished by treatment of the flour with an oxidizing agent such as nitrogen peroxide, chlorine, nitrosyl chloride, nitrogen, trichloride and benzoyl peroxide. Nitrogen peroxide and benzoyl peroxide bleach the yellow pigments but have no measurable maturing effect at the dosages normally used. Chlorine, nitrosyl chloride and nitrogen trichloride, on the other hand, have both a bleaching and maturing effect.

Brown-Duvel Moisture Tester

This is a distillation type of moisture tester in which a certain quantity of grain or ground material is cooked or heated in mineral oil of certain quality and according to prescribed directions as to length of time of heating and the final temperature attained. The final temperature used varies somewhat for different commodities or materials. During the heating the moisture in the grain or material is distilled off, collected and measured.

Import Regulations of Foreign Countries

The Bureau of Foreign Commerce, U.S. Department of Commerce has supplied the following data on import regulations in foreign countries.

Argentina—All importers are required to obtain an exchange permit prior to the placement of orders for merchandise abroad.

Brazil—Prior import license is required for the import of both wheat and wheat flour.

Chile—Import licenses are required. Each shipment of wheat must be accompanied by a certificate issued by competent authorities in the country of origin certifying to the freedom from Sitotroga Cerealella of the region in which the wheat was grown. The Ministry of Agriculture and livestock and the Ministry of Development are empowered to authorize or prohibit the importation of wheat grain and flour and to establish regulations as to requirements and quantity of imports. The importation of wheat flour is prohibited except in the quantity authorized for cracker manufacturing.

Colombia—Wheat flour requires a certificate of registration before import is permitted. Wheat flour imports require the prior approval of the Ministries of Agriculture and Development. Semolina and husked or pearl cereal grains of wheat also require the prior approval of the Ministries of Agriculture and Development.

Cuba—All persons importing wheat or wheat flour must present a permit issued by the Director General of Supplies of the Ministry of Commerce before such importations may be removed from the custom house.

El Salvador—Only enriched flours of No. 1 soft wheat with a minimum protein content of 7% and maximum moisture content of 14%, or of No. 2 hard wheat with a minimum protein content of 13% and maximum moisture content of 14%, may be imported. The established formula for enrichment is, in milligrams per pound: Thiamine, 2.0; riboflavin, 1.3; niacin, 16.0; iron, 13.0, and calcium, 500.0.

Ecuador—All flour shipped to Ecuador, must be accompanied by a certificate of analysis by the competent authority of the place of origin, which has been authenticated by the Ecuadoran Consul at the port of embarkation, without prejudice to the right of the customs authorities to verify, when they see fit, the correctness of the analysis. All goods imported must be covered by an import license.

Formosa (Taiwan) — Under regulations promulgated by the Chinese Nationalist Government, all goods imported into Taiwan require a license. In addition, all imports are classified into three categories: (1) permitted; (2) controlled, and (3) prohibited goods. Wheat flour and bran are all included in the list of permitted imports.

French West Indies—All importers are required to procure an import license prior to the placement of orders for merchandise abroad. Licenses have not been granted for wheat flour imports. Requirements are obtained from Metropolitan France.

Gibraltar and Malta—Prior import permits are required on all imports from dollar countries. Malta prohibits the importation of wheaten flour containing less than 35% by weight of wet gluten. A few local firms buy for their own account.

Guatemala—Only patented or privileged flour of 72% extraction may be imported. Importers must purchase 50 lb. of domestically produced flour for each 100 lb. imported. Wheat and wheat flour must be imported under the IWA until the 1954-55 quota for Guatemala is filled. Thereafter ex-quota imports will be permitted under license by the Minister of Economy and Labor.

Hong Kong—Import permits are no longer necessary to import into Hong Kong.

India—Under regulations for July-December, 1953, no import licenses will be granted for the importation of wheat flour from any source.

Federation of Malaya and Singapore—As a result of the sterling area dollar problem, the governments of Malaya and Singapore restrict imports from the U.S., the Philippines, Japan, Canada and other dollar areas in the Western Hemisphere. Licenses to import wheat flour from the U.S. are issued freely.

Nicaragua—Prior import permits are needed for imports into Nicaragua, according to present exchange control regulations. Imported products are classified into three categories according to essentiality; wheat flour is classified in the essential group, but wheat and bran do not appear in the lists. A deposit in cordobas is required for imports of essential products.

Pakistan—Under regulations announced in October, 1953, no import licenses will be granted for the importation of wheat flour from the dollar area until further notice.

Panama—Wheat flour for bread making is subject to prior import permit of the Panamanian Price Control Office.

Paraguay—All goods imported into Paraguay are subject to import restrictions as a result of exchange control. The Paraguayan importer must obtain an exchange contract for the amount of exchange needed before placing a purchase order abroad. The Central Bank is the exchange control agency and at the present time little or no dollar exchange is being granted for imports of wheat or wheat products from the U.S.

Peru—The importation of wheat flour must be accompanied by the simultaneous importation of bran equal to 25% of the quantity of flour imported. This requirement does not apply to flour imports into Iquitos.

Philippines—Exchange quotas are allocated to importers semi-annually. No import license is required. Wheat flour falls within the "essential consumer goods" category for which exchange is allocated. Unmilled wheat, however, is in the "unclassified list" which represents items for which exchange is generally not allocated.

Thailand—The importation of all foodstuffs was temporarily banned on Nov. 16, 1953, pending the formulation of an import licensing system. To date (Dec. 11, 1954) the Thai government has not implemented a licensing system and the import prohibition remains in effect.

Union of South Africa—All imports into the Union of South Africa, including wheat and wheat products, are subject to prior authorization by the government by means of permits issued to the local importer. Valid permits automatically assure release of the required foreign exchange. Imports of macaroni, spaghetti and vermicelli are sharply restricted, requiring a special import authorization by the Director of Imports.

Uruguay—All importers are required to obtain an import permit before placing an order for merchandise abroad.

Venezuela—Wheat flour and wheat in grain are subject to import license.

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WORLD IMPORT DUTIES on FLOUR and GRAIN

THE Office of International Trade, U.S. Department of Commerce, has supplied the following data covering import duties on wheat, flour and bran, as of Feb. 1, 1955.

The department points out that it cannot guarantee that the rates here given will always be applied to particular shipments, since duties are subject to change at any time. These duties should be confirmed after a lapse of some months.

Tariff information regarding the tariff status of Canadian wheat, flour and bran is provided by the International Trade Relations Branch, Department of Trade and Commerce, Ottawa.

When two or more rates of duty for the same article are indicated, products of the U.S. as a rule are admitted at the lowest ("minimum") rate, except (a) into Canada, where the "most-favored nation" rate applies; (b) into British Commonwealth countries, where the "preferential" rate does not apply to non-British imports.

Where British preferential rates are shown for the British countries listed, they are accorded to Canadian wheat, flour and bran except in Australia, where the preferential rate is accorded to Canada only in respect of bran. In those British areas for which no preferential rates are given (including the United Kingdom in respect of wheat), the rates shown apply equally to the United States and Canada.

In all other countries listed below, except Cuba, the Republic of Honduras and the Republic of the Philippines, imports of Canadian grain and its products enjoy equal tariff treatment with imports from the United States either through the operation of most-favored-nation agreements concluded by Canada with those countries or by the fact that the rates apply equally to imports from all countries. Cuba accords to the United States an exclusive preference on most grain and its products. However, under the General Agreement on Tariffs and Trade the Cuban preference to United States wheat was abolished and the preference on flour considerably reduced. In the Republic of Honduras, certain minor supplementary charges are levied at a higher rate on imports of wheat flour from Canada than on similar imports from the United States.

Europe

All rates of duty are given in 100 kilos (220.46 lb.) unless otherwise specified.

ALBANIA

No information is available regarding the present customs regime in Albania. U.S. trade with Albania is being conducted in accordance with current U.S. export control regulations.

AUSTRIA

Import licenses are not required unless the commodity is on a special list. At present all imports of grain and flour from the dollar area are on such a list. Imports from or through Western European countries of barley for industrial purposes, rye, corn, buckwheat, millet, pulse, rice, hops or hop meal do not require an import license.

The customs tariff provides for the following duty rate in gold crowns per 100 kilograms: Wheat, spelt and meslin, 6 plus a supplementary duty rate of 10; rye and non-fodder barley, 6 plus a supplementary duty rate of 4; oats, 6; corn and barley for fodder, duty-free; millet, 1.50; rice, 1; flour, the duty for the grain from which it is made plus a supplementary duty rate of 4 (1 gold crown—6.96 schillings, 1 schilling —$0.038).

The following temporary tariff reductions were granted until June 30, 1955: Wheat, spelt, meslin, rye, barley, oats, rice and flour, duty-free; buckwheat, millet 1.50 schillings per 100 kilograms.

The turnover equalization tax is 1.8% of duty-paid value for wheat, meslin, spelt, barley for human consumption, oats, buckwheat anid millet and 5.25% for rice. All other items are free of turnover equalization tax.

BELGIUM - NETHERLANDS - LUXEMBOURG

Wheat, ad valorem	Free
Rye, ad valorem	Free
Barley, ad valorem	Free
Oats, ad valorem	Free
Maize (corn), ad valorem	Free
Buckwheat, ad valorem	Free
Flours of the above, ad valorem	3%

A quantity of flour of wheat not in excess of 65,000 metric tons per year may be imported into the Benelux countries free of import duty, under control of the competent organization. In exchange of letters it was specified, however, that this amount would be taken up by the Netherlands only. After 65,000 tons have been imported, the normal 3% rate applies.

Import licenses or declarations in lieu of license are required in Belgium-Luxembourg and in the Netherlands for imports of grains and flour from all areas.

Transmission Tax or Sales Tax on the Above

Belgium-Luxembourg—Per cent of duty-paid value—Wheat, spelt, meslin, rye and flour thereof, 3.50; corn and corn flour, 9.00; other grains and flour thereof, 4.50; bran, 4.50. **Netherlands**—Per cent of duty- and tax-paid value—Wheat, spelt, meslin, rye and flour thereof, free; corn and corn flour, free; other grains and flour thereof, free; bran, free.

BULGARIA

No recent tariff information is available. U.S. trade with Bulgaria is being conducted in accordance with current U.S. export control regulations.

CZECHOSLOVAKIA

Czechoslovakia crowns (ad valorem rates) —Wheat, 14; rye, 17.5; barley and oats, 14; flour and milling products from cereals and pulse, 42. A general purchasing tax is levied on all domestic and imported products. This tax is not applicable on goods sold or imported for further sale to distributors or for further treatment, or when exported.

The General Purchasing Tax rates on grains are as follows (in crowns 100 kilos): Wheat, .55; rye, .5; barley, .4 for feed barley; .4 for industrial uses; malting, .46; oats, .4; corn, .45.

All imports require an import license. The following state-controlled companies are exclusively authorized to engage in foreign trade in the designated commodities: "Koospol, Ltd.," agricultural products and implements; "Centrokomise, Ltd.," foodstuffs.

DENMARK

Grains and grain products (including flour and bran) are duty free. Import licenses are required for imports from the U.S. Exchange control applies to all imports.

FINLAND

Finnish marks per kilogram—Wheat, 1; wheat flour, unbolted, ‡1.50, bolted, ‡3.50; bran, 1.50. All imports into Finland are subject to permit and exchange control.

‡Plus the duty on 1 kilogram of unground wheat.

FRANCE

The importation of wheat and bread flours is under the monopoly control of the National Cereal Office. Import restrictions or license requirements also apply to all grains and flours. Import duties are temporarily suspended, except on oat flakes. Import permits are required.

Minimum in French francs*—Wheat flour, 80% extraction or more, 50% ad. val.; wheat flour, 60 to 79% extraction, inclusive, 50% ad val.; wheat flour, less than 60% extraction, 30% ad val.; oatmeal (breakfast cereal), oat flakes, wheat, rye, and corn, all 30% ad val.; rye flour, 50% ad val.; oats and barley, 40% ad val.; bran, free.

"Value added" tax: Wheat, oats, barley, rye and corn, exempt; wheat and rye flour, intended for bread making, exempt; not intended for bread making 8% of duty- and tax-paid value; oatmeal, oat flakes and bran, 8% ad valorem. Milling tax on wheat, in francs per quintal of wheat is 252 francs (quintal equals approximately one hundredweight).

Transaction tax, 1% of duty and tax paid value.

*French duties as listed apply in the Saar territory.

FEDERAL REPUBLIC OF GERMANY AND WESTERN BERLIN

Import licenses are required unless the commodity to be imported is on a special list. The granting of an import license automatically provides for allocation of foreign exchange. At present all flour and grain imports from the dollar area are subject to such license, but may be freely imported from or through Western European countries.

The German customs tariff of Aug. 16, 1951, stipulates the following duty rates on an ad valorem basis: Wheat, spelt, meslin, rye, 20%; barley, duty-free; oats, duty-free; corn, duty-free; rice, not husked, 5%; husked, unpolished, duty-free; polished, 15%; millet and other cereals, wheat for the manufacture of starch, under customs control, duty-free; flour of wheat, spelt and meslin, rate of duty fixed for wheat plus 13%; rye flour, rate of duty fixed for rye plus 15%; barley flour, 12%; oats flour, 12%; corn flour, 12%; rice flour, 30%; other flour, 20%. The following tariff reductions are temporarily in effect: Wheat, spelt, meslin, rye, duty-free.

A turnover equalization tax of 1½% of duty-paid value is levied on all the above items, except on rice and rice flour, for which this tax is 4%.

GREECE

	Maximum Metallic drachmas	Minimum Metallic drachmas
Wheat flour	24.00	13.50
Wheat	7.50	3.50
Bran	3.00	2.00

Above duties are stated in metallic drachmas, but are payable in paper drachmas at the rate of 6,000 paper drachmas to 1 metallic drachma on wheat flour and bran and 3,600 to 1 on wheat. In addition to the duty, there are surtaxes amounting to three fourths of basic duty. The milling quotas for wheat limit imports of American grain.

The importation of wheat and flour is subject to permit. (30,000 paper drachmas equal $1.00 at official rate of exchange.)

HUNGARY

Foreign trade has been nationalized in Hungary and national enterprises have been organized by the Government to handle the various trade lines. These companies are in exclusive charge of imports and exports in their respective fields. Importation and exportation are both subject to licenses which have to be obtained by the respective enterprises from the Minister of Internal and Foreign Trade. The enterprise established to handle agricultural products is AGRIMPEX.

The customs tariff was revised in 1952 and the new schedule provides for ad valorem rates in place of the former specific duties. The basis of valuation is the "invoiced value of the shipment on the spot of purchase, exclusive of freight and other expenses." The following rates of duty are taken from the revised customs tariff:

	General duty rate ad valorem
Barley for beer	30
Wheat, fodder wheat, barley, n.e.s.	20
Rye, maslin, millet, buckwheat	15
Corn in the grain, oats, fodder barley	10
Corn on the cob	5
Seed grain: Wheat, rye, corn, oats, barley, millet, buckwheat	0

Wheat and rye flour; other rye and maslin milled products, n.e.s. 30
Barley meal and grist; other barley milled products, n.e.s. 25
Semolina; meal and grist of corn and oats; millet milled products; other milled products, n.e.s., of wheat, corn, oats, and other 20
Wheat fodder meal 10

In addition to import duties, imported goods are subject to import taxes corresponding to the production turnover taxes levied on domestically produced goods. Import taxes, generally, are ad valorem based on invoice value, although some taxes are levied on a specific basis. No recent information has been made available on import taxes affecting shipments of grain or grain products.

Although Hungary has a customs tariff, the question of the effect of tariff rates, taxes and licensing requirements on foreign trade becomes academic when it is considered that all domestic and foreign trade has been nationalized and thus is under the control of the state and integrated into the national economic plan.

IRELAND (OR EIRE)

Wheat ..... **Free**
Wheat flour, under permit, and bran.. ***Free**
*May be imported only under permit.

ITALY

Wheat, rye, ordinary (unpearled) barley, white corn and wheat, rye barley and white corn flours are imported into Italy on Italian government account, except temporary imports (i.e., for processing in Italy and re-export) and except imports to Vatican City State.

The following rates of duty applicable to the Italian government imports of the above-mentioned cereals and their flours are, at least for the time, academic.

Wheat, 27% (Tariff item 92a), the conventional rate being 30% under the General Agreement on Tariffs and Trade. After July 14, 1955, unless the 10%-of-itself reduction is extended, the GATT-conventioned rate of 30% will obtain.

Wheat flour, 32% (Tariff item 100a). This is a temporary rate of 35% temporarily reduced by 10% of itself (=32%—fractions not over 50% are not rounded), both the rate and its reduction being due to expire July 14, 1955. The general rate is 60%.

Bran (1) having less than 10% of flour, 10%—representing an 11% temporary rate reduced temporarily by 10% of itself, both being valid through July 14, 1955. The conventioned rate for this item is 15% (GATT). (2) Having 10% or more of flour, dutiable as flour according to the kind, e.g., wheat flour, 32%; spelt or wheat-rye mixture, 32%; rye, 14%; barley, 14%; oat, 14%; whitecorn, 14%, and other corn, 9%. All these last represent temporary rates temporarily reduced through July 14, 1955, unless further extended. On oat flour (oat meal) there is, however, a GATT conventioned rate of 25%.

Ad valorem duties are assessed on the value of the goods, c.i.f., i.e., on the normal and actual price of the goods put down at the door of the Italian customhouse at the time of clearing.

Sales tax: 3% ad valorem c.i.f., except that on (unpearled) barley and barley flour the sales tax is 1% ad valorem, c.i.f.

Import license fee: ½ of 1% (0.5%).

Customs clearance fee: 2.5 lire per metric ton.

LUXEMBURG

(See Belgium-Netherlands-Luxemburg)

NETHERLANDS

(See Belgium-Netherlands-Luxemburg)

NORWAY

Duty in crowns
Wheat and oat flour, wheat and bran.. **Free**

The importation of wheat, rye, barley and oats and products thereof is controlled by a government monopoly.

POLAND

Collection of import duties has been suspended pending the institution of a new tariff. Almost all imports are subject to import licensing, for which license a fee is collected. The fee varies according to the commodity to be imported and its end use. No fee is charged for certain capital goods and certain raw materials, whereas the fee for non-essentials and luxury goods would be very high if such license would be granted at all.

Though the collection of customs duties is suspended, the imposition of import license fees and certain other taxes has the effect of customs duties. Complete information is not available regarding all taxes. Cereals and cereal products imported by undertakings or establishments controlled by the Central Board of the Foodstuffs Industry are understood to be subject to a turnover tax of 5%. There is also a customs manipulation fee assessed per 100 kilograms, gross, as follows: cereals, 0.6 zloty; flours, groats, malt, rice and starch, 6.0 zlotys. The new exchange rate is quoted officially at 4 zlotys for $1.00.

Foreign trade has been nationalized in Poland and national enterprises have been organized by the government to handle the various trade lines. These companies are in exclusive charge of imports and exports in their respective fields. The enterprise established to handle grain is ROL-IMPEX.

Even though the collection of Polish import duties has been suspended, the question of the effect of tariff rates, taxes, and licensing requirements on foreign trade becomes academic when it is considered that all domestic and foreign trade has been nationalized and thus is under the control of the state and integrated into the national economic plan.

PORTUGAL

Wheat and wheat flour may be imported only by authority of special decrees, which also fix the rates of duty. Bran, gross weight 0.006 gold escudos a kilo.

Duties are paid in paper escudos at the rate of 24.45 paper escudos to one gold escudo.

Surtax—60% of duty. Imports subject to permit.

RUMANIA

The revised Rumanian tariff schedule of January, 1949, shows the following rates:

Item—	Lei per 100 lb. 1949 rate old lei	1949 rate in 1954 lei	Turnover tax ad valorem Industrial	Commercial
Wheat, spelt	501.00	13.42	14	14
Corn	86.00	2.30	24	29
Barley	94.00	2.52	24	24
Oats	92.00	2.46	24	24
Rye	465.00	12.46	14	14
Millet	149.00	3.99	24	24
Wheat flour	1,073.00	28.74	*.04	*.05
Flour other than wheat.	938.00	25.12	20	23

*In 1954 lei per kilo.

Note.—Effective Jan. 28, 1952, a reformation of the Rumanian currency was introduced. Under Article 13, Section I, of the

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Exporters of Wheat Flour

Ministerial Decree of Jan. 26, 1952, published Jan. 27 in the press, ". . . payment obligations of the population towards the state are recalculated at the rate of 20 lei old to 1 leu new." Two years later under a Ministerial Decree effective on Feb. 1, 1954, the currency was again revalued and the leu was established at 1.50 lei to the ruble, in place of the 1952 rate of 2.50 lei to the ruble. On the basis of the dollar-ruble relationship, the value of the leu is officially established by the Rumanians at 16.67 U.S. cents. The 1949 rates shown above are recalculated on the basis of the two revaluation ratios.

Foreign trade has been nationalized in Rumania and national enterprises have been organized by the government to handle the various trade lines. These companies are in exclusive charge of imports and exports in their respective fields. Importation and exportation are both subject to licenses which have to be obtained by the respective enterprises from the Ministry of Foreign Trade. The enterprise established to handle grain is AGROEXPORT.

Although Rumania has a customs tariff, the question of the effect of tariff rates, taxes and licensing requirements on foreign trade becomes academic when it is considered that all domestic and foreign trade has been nationalized and thus is under the control of the state and integrated into the national economic plan.

SPAIN

Wheat, 19.40 (gold pesetas); wheat flour, 29.11; flour of other cereals, 12.47. Imports are subject to permit. Surtax, all items 40% of duty.

SWEDEN

Wheat flour, rye flour, etc., 6.50 (crowns) per 100 kilograms; wheat, rye, barley, 3.70 per 100 kilograms; bran and barley, free. Imports of wheat and rye and their milled products are under government controlled monopoly.

SWITZERLAND

In francs per 100 kilos—Wheat and rye, 3; grain (except corn), 0.60; corn, 0.50; cereals, pearled, hulled, cleaned or crushed groats and semolina, except oats, 4.50; oats, hulled, cleaned or crushed, 5; flour, packages over 5 kilos, 4.50; flour, packages up to 5 kilos, 40; bran, 0.30.

The following additional duties stated in francs per 100 kilos are also levied: Oats, worked up, 4; barley, cleaned, 20; other cereals, worked up, 8; oatmeal, 4; barley meal and meal of cereals, 8. Barley and other cereals and pulses, used in the preparation of brewing malt or beer, are subject to an additional duty of 12.20 francs per 100 kilos gross, and malt when used in the manufacture of beer is subject to an additional duty of 16.50 francs per 100 kilos gross. In addition to these duties the Swiss government levies other duties on coarse grains and feeds.

Importation of flour is a government monopoly and is subject to an additional duty of 25 francs per 100 kilos gross. Wheat and other cereals require an import permit.

Under the United States-Switzerland reciprocal trade agreement, the United States was granted an annual quota of 118,000 metric tons of wheat.

License tax—Cereals, and flour of corn and rice in containers of over 5 kilos each, 0.30 franc per metric ton.

TURKEY

Wheat, all kinds, 50%; wheat flour, 50%; bran, 50%.

Surtax, 15% of import duty.

Transaction tax, 18% for bran; 12.5% for wheat flour. There is a port charge of 1% of c.i.f. duty paid value including surtax.

UNITED KINGDOM

	General	British preferential
Wheat	Free	Free
Wheat flour and bran, ad valorem	10%	Free

Imports are subject to open individual licenses generally issued for six-month periods.

(U. S. S. R.) RUSSIA

Wheat, other grains and bran ..... Free
Flour, ad valorem 20%

Trade in Russia is a government monopoly.

The 1939 tariff schedule is officially confirmed as being in effect.

YUGOSLAVIA

All imports of cereals are made by the state trading corporations, the most important of which are: "Agroproduct," located at Pariska 13, Belgrade, and "Grain Export," at Sremska 14, Belgrade. Imports by these trading agencies are not subject to custom duty.

North America

Rates of duty given in 100 kilos (220.46 lb.) unless otherwise specified.

BRITISH HONDURAS

Duty in B. H. dollars

	General	Preferential (Br. Emp.)
Wheat, ad valorem	10%	Free
Flour, 100 lb.	0.38	0.13
Bran, ad valorem	10%	Free
Bran (for dairy farming)	10%	Free

Bran, 1% ad valorem surtax.

Import permits are required for all imports.

CANADA

	Duty in dollars— British preferential	Most-favored-Nation	General
Wheat flour and semolina, per bbl. (196 lb.)..	Free	.50	1.35
Wheat, per bu. (60 lb.)	Free	.12	.30
Millfeed	15%	20%	25%
Barley, n.o.p. per bu.	Free	.07½	.25
Indian corn, per bu.	Free	.03	.20
Oats, per bu. ...	Free	.04	.16
Rye, per bu.	Free	.06	.15

The Most-Favored-Nation Tariff rates apply to importations from the United States under treaty regulations.

The British Preferential Tariff rates apply to importations from British Empire countries under the British Preferential Tariff Regulations.

The above products are exempt from the consumption or sales tax.

Importers must apply directly to the Canadian Wheat Board for permission to import wheat, oats and barley or their products for consumption in Canada. It is unnecessary to make such application for grain and products going to Canada for storage in transit for reshipment out of Canada. Import permits in such cases are granted automatically with the allocation of elevator space by the Board of Grain Commissioners. However, diversion of grain or grain products to Canadian consumption must be reported to the Wheat Board.

COSTA RICA

The Trade Agreement with the U.S. was terminated June 1, 1951, and the system of exchange surcharges and import categories expired Sept. 30, 1951. On April 1, 1954, a new tariff became effective. A List of Articles of Primary Necessity was published, and only articles on this list may be imported with official exchange selling at 5.67 colones to the dollar. Wheat and flour are included in the list.

The new duties are as follows: Wheat, 2%; wheat flour, first quality, 16.00 colones per gross kilogram; bran, 10, plus 2% ad val.; wheat flour of other qualities, 40.00, plus 4% ad val.

GUATEMALA

In quetzales—Wheat (gross weight) 2; wheat flour (gross weight) 3; bran for feed, free.

Revenue tax to maximum of 6%. (Where duties do not total the equivalent of 6% ad valorem, the entire 6% or the required fraction thereof is assessed to bring the total charge to at least 6% ad valorem).

Toll tax (Peaje) of 2% of import charges.

Package tax of 10 centavos on all imported packages, dutiable or not.

Handling tax of 10 centavos per package.

Stamp tax of 0.4% ad valorem.

Guatemalan importers of flour must register each brand name with the Department of Public Health, presenting a certificate signed by the miller and a responsible public health official of the country (city or state) of origin, and certified by a Guatemalan Consul, that the product is sold and consumed without restriction in the country of origin. An analysis and sample must also accompany the registration.

The duty on wheat and wheat flour is "bound" by the U.S.-Guatemala reciprocal trade agreement.

HONDURAS

Wheat flour (gross weight), 12 (lempiras); bran, 0.16; wheat (gross weight), 20.*

Various customs surtaxes and fees in connection with importation total as follows on these products:

Wheat—11% ad valorem plus 6.0 lempiras 100 kilos.

Flour—11% ad valorem plus 5.0 lempiras 100 kilos.

Bran—11% ad valorem plus 6.0 lempiras 100 kilos.

The duty on wheat flour is "bound" by the U.S.-Honduras reciprocal trade agreement.

*Special concessions granted to mills reduce this to approximately 4.

MEXICO

Duty in Mexican pesos. Dutiable Unit—Specific—ad valorem—Flour, including immediate containers, legal kilo, 0.10, 35%; wheat, gross kilo, 0.06, 20%; bran, gross kilo, 0.02, 10%; corn, gross kilo*, free, 1%.

*Sacks and bags are dutiable separately.

There is a surtax of 3% of the duty on all dutiable articles by freight or express—Wheat flour, legal kilo, 2.00 (official valuation pesos); wheat, gross kilo, 1.00; bran, gross kilo, 1.80; corn, gross kilo, 0.90.

The above ad valorem duty rates apply to the official valuations (above). However, if the invoice value is higher than the official valuation, the rate applies on the higher valuation.

Packaged foodstuffs must be registered with the Mexican Department of Public Health before importation.

Mexican import permits, issued by the Ministry of Economy, are required for imports of wheat and wheat flour.

In addition, an import permit issued by the Direccion de Defensa Agricola in the Ministry of Agriculture and Animal Industry is required for imports of wheat from the following states:

Illinois, Kansas, Missouri, Washington, Arkansas, California, Delaware, New York, North Carolina, Oklahoma, Oregon, Pennsylvania, Tennessee, Virginia, Maryland, Montana, Idaho, Indiana, Iowa and Nebraska.

NICARAGUA

Wheat (net weight), 0.69 (U.S. dollars); wheat flour (net weight), 2.8375; bran (net weight), 0.69.

There is a tax of 10c per package on all imports, plus 10c per 46 kilos or fraction thereof, up to a maximum 1 cordoba on each imported package.

Certificate of origin is required for wheat flour. There is a hospital and improvement tax of 3¢ per package on each package imported regardless of size or weight. (This tax is not collected on shipments cleared through customs in the following cities: Puerto Cabezas, San Juan del Norte, Morazan, San Carlos and Managua.)

A customs and port tax of 5 cents per package is assessed on each package imported regardless of size or weight of package.

The duty on wheat flour is bound by the General Agreement on Tariffs and Trade.

PANAMA

Wheat (gross weight), 1.50 (balboas 100 gross kilos); flour (per gross kilo), 0.01; wheat bran, free; corn bran (per 100 gross kilos), 3.00; mixed bran with corn (per 100 gross kilos), 1.00; bran not specified, 15% ad valorem; seeds for cereals (rice, corn, etc.), free. Wheat flour to be used for bread-making is subject to a prior import permit of the Panamanian Price Control Office.

A consular duty of 5% is assessed on the f.o.b. ports-of-exit value of dutiable goods. The consular duty on duty-free items is 8%.

ST. PIERRE AND MIQUELON (FRENCH)

Wheat, free; wheat flour, free; other cereal flour, free; bran, 4% ad valorem.

These products are subject to import permit and to a 2% surtax, and a 3% war tax.

EL SALVADOR

Import duties, consular fees and other import charges on wheat in its natural form were removed Nov. 1, 1951.

The duty on wheat flour was reduced from $9 to $4.50 per 100 kilograms. This amount may be further reduced by an amount equal to the difference between the f.o.b. value of wheat flour imported under the International Wheat Agreement and the value of flour imported outside the agreement. The reduction applies to the balance of flour necessary to satisfy Salvadoran domestic consumption after the IWA quota has been exhausted.

Duties are paid in colones at the rate of 2.50 colones to $1. Duties include all charges and surtaxes.

The duty may, however, be raised back to the level preceding the recent reduction since that level prevailed at the time the trade agreement was concluded.

UNITED STATES

Wheat, bu., 60 lb.	$0.21
Wheat flour, 100 lb.	.52
Semolina, 100 lb.	.52
Corn, bu., 56 lb.	.25
Corn flour, grits, meal and similar products, if products of Cuba are dutiable at the rate per 100 lb.	.40
Cornmeal and flour, 100 lb.	.50
Oats, hulled or unhulled, bu., 32 lb.	.04
Oatmeal, rolled oats, etc., 100 lb.	‡10%
Rye, bu., 56 lb.	.0¢
Rye flour and meal, 100 lb.	.22½
Barley, hulled or unhulled, bu., 48 lb.	.07½
Barley malt, 100 lb.	.30
Pearl barley, lb.	.00½
Buckwheat, hulled or unhulled, 100 lb.	.10
Buckwheat flour, lb.	.002
Macaroni, vermicelli, etc., lb.	.01
Macaroni, vermicelli, etc., containing eggs or egg products, lb.	.01½
Oat and barley hulls, etc., 100 lb.	.02½
Flaxseed, bu., 56 lb.	.50
Linseed oil, lb.	.045
	†Ad valorem
Bran, shorts, etc.	2½%
Unground screenings, etc	2½%
Ground screenings	2½%
Cereal breakfast foods, etc.	5%
Biscuits, cakes, etc.	‡10%
Wheat, unfit for human consumption	5%
Bread (yeast)	Free of duty

†Ad valorem rates apply to the entered or appraised value, whichever is higher. The appraised value is ascertained under section 402 of the Tariff Act of 1930 as amended, in order defined, if such values exist, at foreign or export value, whichever is higher, at United States value, or at cost of production.

‡Plus an additional sugar tax (I. R. C., sec. 2500 (3), which is 0.5144c per lb. of the total sugars therein on all articles composed in chief value of manufactured sugar.

‡10% ad valorem, but not less than 20¢ nor more than 80c per 100 lb.

In a Presidential Proclamation published in T. D. 50650 it is provided that the rates proclaimed pursuant to trade agreements shall apply to the products of all countries, subject to certain exceptions and conditions.

British West Indies

Rates of duty are in sterling or British West Indies dollars, per 100 lb. unless otherwise specified; first duty is general; second is British preferential.

ANTIGUA

Wheat, 36¢ (general), 24¢ (British preferential); wheat flour, bbl. (196 lb.), $2.16, $1.68; bran, 48¢, 32¢. Surtax, 30% of the duty on all imports except wheat flour, on which it is 10% of the duty. Trade tax of ½ of 1% ad valorem. Package tax of 1d per cu. ft. or part thereof. These products require an import permit.

BAHAMAS

Wheat, 1s (general), 6d (British preferential); wheat flour, bbl. (196 lb.) 2s, free; bran, 1s, 6d. There is a surtax of 5% ad valorem on wheat. These products require an import permit.

BARBADOS

Wheat, 12¢ (general), free (British preferential); wheat flour, bbl. (196 lb.): (1) whole meal, 48¢, free; (2) other than whole meal, 48¢, free; bran, 14¢, free. Surtax on imports, 20% of the duty.

Package tax—

Flour, 6d per 196 lb.; bran, 6d per 80 lb.; wheat, 6d per package.

These products require an import permit.

BERMUDA

British Preferential Tariff

Wheat, free; wheat flour, 9d; bran, free.

General Tariff

Wheat, free; wheat flour, 9d, plus 2½% (ad valorem); bran, free. Import permit is required.

DOMINICA

Wheat 36¢ (general), 24¢ (British preferential); wheat flour and meal 75¢, 50¢; bran 36¢, 24¢.

These products require an import permit, and are subject to a package tax of 6¢ per package or 6¢ per cwt. on loose articles.

GRENADA

Wheat, 36¢ (general), 24¢ (British preferential); wheat flour, bbl. (196 lb.), $1.70, $1.20; bran, 16¢, free.

There is a surtax of 10% of the duty.

These products require an import permit.

JAMAICA

Wheat, free; wheat flour, bbl. (196 lb.), 12s, 9s; bran, free.

Tonnage tax: 6d cwt on flour. On bran and wheat, 6d on packages not exceeding ½ cwt.; over ½ cwt. but not over 1 cwt., 1s; over 1 cwt. but not over 4 cwt, 2s; exceeding 4 cwt., 2s 6d on first 4 cwt. plus 6d for each additional cwt. and part thereof. These products require an import permit.

MONTSERRAT

Wheat, 1s 6d (general), 1s (British preferential); wheat flour, bbl. (196 lb.), 9s, 7s; bran, 2s, 1s 4d.

There is a surtax of 10% of the duty on wheat flour; 25% of the duty on wheat and bran. These products require an import permit.

ST. CHRISTOPHER AND NEVIS

Wheat, 36¢ (general), 24¢ (British preferential); wheat flour, bbl. (196 lb.), $2.16, $1.68; bran, 48¢, 32¢.

Surtax of 12½% of duty.

These products require an import permit.

ST. LUCIA

Wheat, 1s 6d (general), 1s (British preferential); wheat flour, bbl. (196 lb.), 9s, 6s; bran 3d, free. There is a surtax of 25% of the duty on wheat only. These products require an import permit.

ST. VINCENT

Wheat 40¢ (general), 27¢ (British preferential); wheat flour, bbl. (196 lb.) $1.50, $1; bran 45¢, 30¢. There is a package tax of 6¢ per package or per cwt. if shipped loose.

These products require an import permit.

TRINIDAD AND TOBAGO
(In Trinidad Dollars)

Wheat, 0.60 (general), 0.30 (British preferential); wheat flour, bbl. (196 lb.), 0.48, free; bran, 0.30, 0.15. These products require an import permit.

TURKS AND CAICOS ISLANDS

Wheat, 2s (general), 1s 6d (British preferential); wheat flour, bbl. (196 lb.), exempted, 2s; bran, 1s 6d, 1s.

Tonnage tax on flour and bran, 6d cwt.; wheat, 6d on packages not exceeding ½ cwt, over ½ cwt but not over 1 cwt., 1s; over 1 cwt. but not over 4 cwt., 2s; over 4 cwt., 2s 6d on first four cwt., plus 6d for each additional cwt. or part thereof.

These products require an import permit.

BRITISH VIRGIN ISLANDS

Wheat, 1s (general), 8d (British preferential); wheat flour, bbl. (196 lb.), 4s, 2s 8d; bran, 2s 3d, 1s 6d; an additional 42.8% of the duty is charged on all items of a specific rate of duty. Plus surtaxes of 3.6% and 20% of duty on bran. Consular fee of 7% f.o.b. value, port of exportation; gross sales tax of 6% landed value.

There is a further surtax of 2% of duty on all imports.

These products require an import permit.

West Indies

CUBA

Rates in U.S. dollars per 100 kilos (220.46 lb.).

Wheat, gross weight, 16¢ (GATT), 16¢ (U.S. preferential); wheat flour, gross weight, 83¢, 63¢; bran, gross weight, 50¢, 40¢.

CURACAO (NETHERLAND WEST INDIES)

Florins per 90 kilos (198.41 lb.).

Wheat, ad valorem (invoice valuation), 3%; wheat flour, 0.50; bran for feed, free.

Surtax on all imports is 10% of the duty.

DOMINICAN REPUBLIC

U.S. dollars 100 kilos (220.46 lb.)

Wheat and bran, free; wheat flour, net weight, $6; semolina, net weight, $3.50. In addition, an internal tax of $2 per 100 net kilos on wheat flour; import tax of 23% ad valorem; cargo tax of 25¢ each 50 gross kilos; cargo handling service charge, $1.50 per metric ton; $4 clearance fee on imports; and a document tax on import manifests, $1 per manifest valued up to $100; $2, on manifests valued $100-$500; $4 on manifests valued $500-$2,000; plus $1 per $500 over $2,000.

HAITI

Duties in gourdes net kilo.

Wheat, 0.11; wheat flour, 0.30; bran, 0.06.

Surtax on all imports is 20% of duty.

Special surtax of 3.5% assessed on combined total of c.i.f. value, duty, surtaxes, handling and stamp charges.

FRENCH WEST INDIES
GUADELOUPE

Wheat, *30% ad val.; wheat flour, exempt; bran of all grains, exempt.

Transaction tax is 1% of duty and tax paid value. Production tax on wheat flour not destined to bread-making, 3.75% of

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duty-paid value; on bran, 3.75%.

Octroi tax on wheat, 2% ad valorem; on bran, 2% ad valorem.

Importation of these products is subject to permit.

*Temporarily exempted from duty.

MARTINIQUE

Wheat, *30% (ad val.); wheat flour at any rate of extraction, exempted; corn, 10%; corn meal, *30%; bran of all grains, exempt.

Transaction tax is 1% of the duty and tax paid value.

Production tax on wheat flour not destined to bread-making, 3.75% of duty-paid value; on bran, 3.75%.

Octroi tax on wheat 2%, on wheat flour 1%, on bran 2%.

Importation of these products is subject to permit.

*Temporarily exempted from duty.

South America

Rates 100 kilos (220.46 lb.) unless otherwise specified.

ARGENTINA

Based on the tariff, effective Nov. 15, 1950, customs duties are calculated on the basis of c.i.f. value (Buenos Aires).

Manioc, exempt; flour*, 45%, flour†, 45%; flour‡, 45%; flours, prepared, for making pastries, 45%.

*Item 131 flour of wheat or corn, in sacks or barrels, including the weight of the container.

†Item 132 flour of sago and oatmeal in tins, 45%; 132c flour of all other edible materials, except tapioca and banana flour, in packages or tins, 45%.

‡Item 133 flour of sago and oatmeal in boxes and bags, 45%; 133c flour of all other edible materials, except tapioca and banana flour in boxes and bags, 45%.

BOLIVIA

Wheat flour, gross weight, 35 (bolivianos); wheat, gross weight, 25; sowing, free under permit; bran, gross weight, 39. There are surtaxes of 20% of the duty and 200% of its c.i.f. value on flour. Flour, domestic and foreign, is subject to a tax of 2 bolivianos per quintal of 46 kilos. Imports are subject to permit.

BRAZIL

Wheat,† gross weight, 56.94 (cruzeiros*, minimum rates, ton); wheat, cracked or half milled (legal), 217.00; wheat flour,‡ legal weight, 217.00; bran and middlings, gross weight, 174.02.

*There is a surtax of 10% of the duty.

†There is an additional surtax of 0.60 cruzeiro per 44 kilos of flour theoretically to be extracted from imported wheat, at a fixed extraction ratio of 70%.

‡There is an additional surtax of 0.60 cruzeiro per 44-kilo bag of imported flour.

The surtax of 2% of c.i.f. value, port of entry, applying to most imports, is collected on wheat flour, bran and middlings, but not on wheat.

BRITISH GUIANA

Duty in dollars of British Guiana (4s 2d). Wheat flour $1.09 (100 lb.), 85¢ (preferential); wheat, 100 lb., 50¢, 25¢; bran, 60¢, 30¢.

An import license is required for these products.

CHILE

	Chilean gold pesos
Wheat flour	80.00 per gross metric quintal
Bran	13.50 per gross metric quintal

Wheat—When the c.i.f. value of the wheat is 70 pesos or more 100 kilos, it is free of duty; when its price is 69 pesos, the import duty is 0.75 gold peso 100 kilos, and this rate of duty is increased 0.75 peso for each peso of decline in price.

Surtax is 0.275 gold peso 100 kilos or fraction.

General import-sales tax is 23% of the duty-paid value on wheat and bran, and 3% on wheat flour.

All imports are subject to permit.

COLOMBIA

Wheat, spelt* and meslin,* †0.12, plus duties, 10% ad val.; cereal flours: (a) wheat, spelt and meslin, †0.63, plus duties, 25% ad val.; wheat flour imported specifically to make crackers and cookies: duties increase progressively as follows: effective June 14, 1952, †0.34, plus duties, 25% ad val.; July 1, 1952, †0.44, plus duties, 25% ad val.; Jan. 1, 1953, †0.54, plus duties, 25% ad val.; July 1, 1953, †0.63, plus duties, 25% ad val.; semolina and husked or pearl cereal grains: (a) wheat, †0.30, plus duties, 25% ad val.; semolina and husked or pearl cereal grains of wheat imported specifically to manufacture macaroni, spaghetti, and other such items, †0.30, plus duties, 25% ad val.; bran, sharps and other residues from screening, milling and husking of grain and podded seeds, free, free ad val.

*Note: Spelt and meslin are prohibited importation.

†Specific (pesos) gross kilogram.

Wheat development and protection quota fee: The importer must pay to the Bank of the Republic a wheat development and protection quota fee of 0.16 pesos per kilogram on wheat imports. The bank's receipt for this fee must be presented to the Office of Exchange Registry before an import registration certificate will be granted. Before wheat imports will be permitted, Colombian mills must be purchasing the entire local crop. The Colombian government may vary the amount of the wheat development and protection quota fee to compensate for fluctuations in the price of wheat abroad. The Ministries of Agriculture and Development may suspend the importation of wheat whenever domestic production is no longer absorbed by the mills.

Exchange Tax: A 3% stamp tax is levied on exchange remittances in payment for imports. A certificate of registration is required before importation is permitted.

ECUADOR

In sucres—Flour, gross weight, 1.30 per gross kilo; flour, self-rising (legal weight), 5.00 per legal kilo; wheat, gross weight, 0.15 per gross kilo; bran gross weight, 0.10 per gross kilo. These duties effective Jan. 1, 1954. (Exchange taxes and most surtaxes and additional charges, formerly collected in addition to the import duties, are consolidated in the new duty rates which became effective Jan. 1, 1954.)

A certificate of analysis is required for imported flour.

All imports require import permits.

NETHERLAND GUIANA (SURINAM)

In florins — Flour, when packed in packages of 1 kilo or less, ad valorem (c.i.f.), 16%; flour, otherwise packed, .025 per kilo; wheat and other grain, 16% per kilo; millfeed, free.

There is a surtax of 25% of the duties on all imports.

Permit restrictions and exchange control apply to imports into Netherland Guiana.

PARAGUAY

Wheat, gross weight, 12.10 guaranis; wheat flour, gross weight, 25.15 guaranis; wheat flour, combined with yeast and the like for puddings, food preparations and the like, kilo, 1.45 guaranis; corn meal, gross weight, 38.20 guaranis; bran, gross weight, 4.75 guaranis. Surtax is 15% ad valorem, except on wheat and wheat flour, 8%.

PERU

Wheat flour, gross weight, 5.00 (soles); wheat, gross weight, 1.50; bran, gross weight, 2.00; all per 100 gross kilos.

Surtaxes—Wheat and wheat flour: 9.667% c.i.f. value; bran: 13.667% c.i.f. value, plus 2% of the ocean freight charge value. All existing national and regional customs surtaxes on imports (including the consular fee, National Education Tax, Santa Tax, etc.) were abolished by a decree law, July 10, 1950, and were replaced by a single new tax to be collected at a uniform rate in all ports. This unified tax system has since been modified in conjunction with the establishment of an additional tax to be collected separately for a special navy fund. (C.i.f. percentages represent the modified unified tax.) Additional regional taxes are collected, varying according to locality. Forty thousand metric tons wheat a year from Chile allowed duty-free entry.

URUGUAY

Wheat flour, gross weight, 5.45 (pesos); wheat, 1.35; bran, gross weight, 2.03. There is a surtax of 9% ad valorem, based on the c.i.f. value of wheat.

VENEZUELA

Wheat in grain, 0.02 (bolivar); wheat flour, 0.04; bran, 0.04—all duties per gross kilogram. Under Supplementary U.S.-Venezuela Trade Agreement, effective Oct. 11, 1952, the wheat flour duty is bound at 0.04 for three years. Wheat flour is subject to a prior import permit.

Africa

ALGERIA

Same rates of duty as apply on similar products imported into France. Duties paid in francs.

The import duties are suspended on the following: Cereal flours, groats, semolinas, cereal grains, cleaned or husked, crushed grains, and bread-making grains, germs, flakes, except oat flakes.

A production tax of 10% ad valorem applies to imported wheat and wheat flour.

BELGIAN CONGO

Import duties—Corn and rice, 25% ad val.; wheat and meslin, rye, barley, oats, buckwheat, millet, durra, canary seeds and other cereals, free; wheat and meslin flours, exempt; corn and rice flours, 25% ad val.; other cereal flours, free; groats, semolinas, cereal grains, cleansed, pearled, crushed, flattened (flakes, including those subject to a thermic treatment), and edible cereal germs, except husked rice, pearled rice or broken rice, exempt. Brans containing in weight 10% and more flour have the same import duty as the flour from which they are the residue.

EGYPT

Wheat, free; wheat flour, 100 gross kilo, 562.5 milliemes; bran, 100 gross kilo, 125 milliemes. In addition to the import duty, there is a quay tax of one tenth of the duty, and an additional ad valorem duty of 7% of c.i.f. value. Municipal tax levied on total amounts paid as import duty, ad valorem duty and excise, on general merchandise: Alexandria, 1.5%; Port Said, 2%; Suez, 3%.

MADAGASCAR

Import taxes—Wheat, spelt and meslin, 11% ad val.; wheat, spelt and meslin flours, 11% ad val.; wheat bran and other residues, except germs, exempt; wheat groats, semolina, grains cleaned or husked, crushed grains and bread-making grains, germs, flakes, 16% ad val.; Economic Development Tax, 2% ad val. The importation of wheat and flour is subject to permit. Import duties have been temporarily suspended.

MOROCCO

Wheat,* wheat flour, bran, 12½% ad valorem. In Spanish Morocco, in addition to the ad valorem import duty, there is a discretionary consumption tax ranging from 0 to 0.12 peseta a kilo on imported wheat and from 0 to 0.20 peseta a kilo on imported flour. In French Morocco, there is a stamp tax of 1% of the total customs duties and a transaction tax of 1% ad valorem. Trade in grain under government control; imports are subject to special

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permit. In Spanish Morocco, there is a special consumption tax of 1% ad valorem on flour, except in Sanjurjo, where it is free of this tax. Ad valorem rates are based on wholesale cash value of goods delivered at the custom house.

*Except grain for sowing.

TUNISIA

Wheat flour, spelt and meslin, 30% ad valorem; wheat, hard, soft and meslin, 30%; wheat groats, semolina, grains, cleaned or husked, crushed grains and bread-making grains, germs, flakes, 30%; wheat bran, 5%. Transaction tax of 3.5% on all items ad valorem. Customs formality tax—30 francs 1,000 kilos, gross or fraction thereof, with a minimum rate of 1.5% on all items ad valorem. Imports are subject to permit.

UNION OF SOUTH AFRICA

Wheat, 100 lb., 2s 8d; wheat, ground or otherwise prepared, 5s 3d; wheat bran, 1s 2d. Rates apply equally to all countries (former preferential rates to United Kingdom and Canada were eliminated under the General Agreement on Tariffs and Trade.) There is a special customs duty per cental equal to the difference between 11s 3d for wheat and 18s 6d for wheat flour and meal, and the cost per cental to the importer at the port of importation (c.i.f., including customs duty); provided, the cost of the product per cental to the importer, free on board at port of shipment, shall be taken to be a sum not greater than the ordinary market price for export per cental at time of purchase, expressed in Union currency, of similar goods free on board at port of shipment.

Asia and Australia

AUSTRALIA

Australian pounds per 100 lb.—**Wheat,** 2s (general), free (British preferential); wheat flour, 2s 6d, free; bran, 1s 3d, 9d. The preferential rates apply to imports from the U.K. and New Zealand, and on bran only from Canada.

There is also a primage duty of 10% ad valorem on such imports with two exceptions. New Zealand imports are exempt from primage and bran is only subject to a 5% ad valorem primage duty under the British Preferential.

All imports from dollar areas, including the U.S. and Canada, are subject to import licensing. Import licenses are only granted for essential commodities not obtainable domestically or from non-dollar sources. Each application for license is considered individually on its merit.

MALAYA

Wheat, flour and bran ..... **Free**

Import licenses are issued freely for wheat flour from the dollar area. Licenses are not issued for wheat or bran. Goods not licensed for direct importation into Malaya, may be imported by way of Hong Kong. Payment is made in sterling to Hong Kong and dollars are purchased there on the free money markets. Bills of lading and invoices must, however, be issued from Hong Kong.

FORMOSA (TAIWAN)

Dutiable goods imported into Taiwan are subject to the duty rates contained in the Customs Import Tariff of the Republic of China as revised in 1950. Rates of duty applicable to imports of wheat, flour and bran are as follows (ad valorem basis): Wheat, 15%; flour, 15%; bran, 15%.

In addition, harbor dues, amounting to 2% of the duty-paying value of the goods, are collected.

HONG KONG

No import duty is collected on imports of wheat, flour or bran into the British Crown Colony of Hong Kong. No surtaxes or port dues are collected; 49-lb. bags are most frequently used.

INDIA

Both wheat and wheat flour are free of duty. Bran, ad valorem 3⅛%.

INDOCHINA

	Piasters	
Description of products:	Rate of import duty ad val.	Internal tax ad val.
Cereals—		
Wheat, spelt and meslin	15	Free
Flour of—		
Wheat	12	4
Rye, barley, oats, rice, maize and others ...	15	4
Groats, semolina, husked or pearled cereal grains, crushed grains and grist, flakes:		
From any kind of cereal	15	4
Bran, sharps and other residue of screening, milling and husking of cereal and of cereal grains:		
From any kind of cereal	5	Free

Assessment of customs duty is on the price c.i.f. port of duty.

In addition, there is assessed a statistical tax of 2 piasters per parcel, case, or other container and/or 1,000 kilos or cubic meters.

The official exchange rate is 35 piasters to U.S. $1.00.

Generally, dollar exchange is not granted for purchases in the U.S. except in the case of essential goods not procurable from France or other French Union sources.

INDONESIA

	Ad valorem, c.i.f., %
Wheat, corn, rye, barley and buckwheat	9
Wheat flour, wheat meal, in bags.....	18
Flour not of specified grains.....	18
Bran	9

Note: These duties include the surtax.

Importers are not permitted to place orders abroad until the exchange control authorities have authorized payment to be made.

ISRAEL

The Israel pound divided in 1,000 prutoth is equal to $2.80 at the official rate of exchange for cereal imports. Import duties on wheat and flour vary according to value fixed periodically by director of customs. Wheat valued at 1.1£ per metric ton or over is assessed 1,000 prutoth ton import duty. From this maximum the duty rate is increased 250 prutoth for each decrease of 250 prutoth in valuation to a minimum valuation of 5,250 prutoth, when the duty is 4,000 prutoth. The value of wheat for duty purposes is determined by the director of customs. Flour, semolina and crushed or ground wheat valued at 1£ per metric ton or over is assessed 2,000 prutoth ton import duty. From this maximum valuation, the rate of duty is increased 250 prutoth for each decrease of 250 prutoth in valuation to a minimum valuation of 6,250 prutoth, when the duty is 7,500 prutoth. The director of customs has authority to determine the value of these products for duty purposes. Rye flour valued at 1£ per metric ton or over is assessed 3,500 prutoth ton import duty. From this maximum valuation, the import duty is increased 250 prutoth for each decrease of 250 prutoth in valuation to a minimum valuation of 5,750 prutoth, when the import duty is 6,000 prutoth. Bran, free. Imports are subject to import license.

JAPAN

Japan's revised Import Tariff Schedule, effective May 1, 1951, carries the following duties (all ad valorem): Wheat, 20%. Wheat flour and bran are free from duty at present.

LEBANON

Wheat, spelt, meslin and groats, free; flour from hard wheat and from soft wheat, free; bran, free. Other charges on imported goods whether subject to import duty or not, are as follows: Municipal tax of 1.5%, ad valorem; landing charges (payable to steamship agencies) of 20 Lebanese pounds metric ton: and harbor and handling charges (payable to port company) of 6 to 15 piasters per 100 kilos. All imports are subject to license, and the import license application fee is 12 Lebanese pounds for each license without regard to the quantity of goods it covers. The Lebanese pound, divided into 100 piasters, is equal to about $0.4563 in U.S. currency terms when computed at the official Lebanese selling rate of exchange.

NEW ZEALAND

Bran or Pollard.—Free.

Wheat.—When the current domestic value at the port of export to New Zealand is 5s per bu of 60 lbs, the duty shall be 8d per bu of 60 lbs, provided that—

(a) When the current domestic value at the port of export to New Zealand exceeds 5s per bu of 60 lbs, the rate of duty shall be decreased by ½d (halfpenny) per bu of 60 lbs for every ½d (halfpenny) or fraction of ½d (halfpenny) by which the said current domestic value exceeds 5s, and

(b) When the current domestic value at the port of export to New Zealand is less than 5s per bu of 60 lbs, the rate of duty shall be increased by ½d (halfpenny) per bu of 60 lbs for every ½d (halfpenny) or fraction of ½d (halfpenny) by which the said current domestic value is less than 5s.

Wheat Flour (including wheat meal and similar preparations of wheat)—(a) When the current domestic value at the port of export to New Zealand is £13 per ton of 2,000 lbs, the duty shall be £1 12s per ton of 2,000 lbs.

(b) When the current domestic value at the port of export to New Zealand exceeds £13 per ton of 2,000 lbs, the rate of duty shall be decreased by 1s per 2,000 lbs for every 1s or fraction of 1s by which the said current domestic value exceeds £13.

(c) When the current domestic value at the port of export to New Zealand is less than £13 per ton of 2,000 lbs, the rate of duty shall be increased by 1s per 2,000 lbs for every 1s or fraction of 1s by which the said current domestic value is less than £13.

(d) Where wheat flour, including wheat meal and similar preparations of wheat, is imported in packages weighing less than 150 lbs, the current domestic value thereof shall be determined as if such goods had been imported in packages weighing 150 lbs or such other standard weight as the minister may approve.

(e) Notwithstanding anything in the preceding paragraphs of this tariff item, the current domestic value of wheat flour, including wheat meal and similar preparations of wheat, shall not in any case be deemed to exceed the free-on-board (f.o.b.) export cash price thereof by more than £1 5s per ton of 2,000 lbs.

All imports from dollar areas are subject to import license, and wheat flour is prohibited from importation. At present, no licenses are being issued for wheat, wheat flour, bran or pollard from dollar areas.

PAKISTAN

Wheat and wheat flour are free of import duty. The duty on bran is 3% ad val.

REPUBLIC OF THE PHILIPPINES

United States articles, i.e., products of the U.S. which do not contain more than 20%, by value, of foreign materials, enter free of ordinary customs duties. Products which do not qualify as U.S. articles and imports originating in foreign countries other than the U.S. are subject to full Philippine tariffs. If the U.S.-Philippine Trade Agreement of 1946 is revised in accordance with recommendations made by the specially appointed U.S. and Philippine delegations in December, 1954, Philippine duties on U.S. articles will be levied at 25% of the rates applicable to non-U.S. articles beginning Jan. 1, 1956, and will be progressively raised until Jan. 1, 1974, when U.S. articles will be subject to full Philippine duties. In the case of wheat, wheat flour and bran, the following rates of duty are provided in the Philippine Tariff Act of 1909, as amended: Wheat, in grain, 100 kilos gross weight, 25¢; wheat, in flour, 100 kilos gross weight, 47¢; bran, 5%, ad valorem. All imports of these products from whatever country are subject to a tax equal to 7% and computed on "landed cost" plus a mark-up of 25%. The tax is payable by the importer. ("Landed cost" may be defined as the value of the article plus all expenses incident to importation. In the case of wheat grain and bran the landed cost includes the 17% excise tax calculated on the peso value of exchange purchased to pay for the grain and the bran.)

SYRIA

Wheat, spelt, meslin, exempt; flour, from hard wheat and from soft wheat, 50% ad valorem; bran, 50% ad valorem; groats, 50% ad valorem, wheat flour unspecified, 25 piasters per gross kilogram. Other charges on imported goods, whether subject to import duty or not, are as follows: Municipal tax of 5% ad valorem; Harbor and landing charges average 1.2% ad valorem. All imports are subject to license and the import license application is 12 Syrian pounds for each license without regard to the quantity of goods it covers. The Syrian pound, divided into 100 piasters, is equal to about $0.45 in U.S. currency terms when computed at the official Syrian selling rate of exchange.

Minneapolis Linseed Mills

Archer-Daniels-Midland Co. — Yearly capacity: 15,000,000 bu. linseed (flaxseed); 714,000 drums oil, 1,277,000 tons meals.

Falk & Co., Inc., Northwest Linseed Div.—Yearly capacity: 2,500,000 bu. flax, 125,000 bbl. oil, 50,000 tons cake.

Spencer Kellogg & Sons, Inc.—Yearly capacity: 8,400,000 bu. flax, 420,000 bbl. oil, 130,000 tons cake.

Minnesota Linseed Oil Co.—Fridley plant; yearly capacity: 5,000,000 bu. flax; 250,000 bbl. oil, 100,000 tons meal.

Productivity Trends in the Flour and Other Grain Mill Products Industry

INDEXES OF PRODUCTION, EMPLOYMENT, MAN-HOURS, PRODUCTIVITY AND UNIT LABOR REQUIREMENTS—1939=100

Flour and Other Grain Mill Products Industry

Year	Production	Production workers	Man-hours	Output per—Production worker	Output per—Man-hour	Unit labor requirements—Production workers per unit	Unit labor requirements—Man-hours per unit
1939	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1940	96.8	97.2	95.1	99.6	101.8	100.4	98.2
1941	98.2	95.6	96.7	102.7	101.6	97.4	98.5
1942	100.1	97.0	103.2	103.2	97.0	96.9	103.1
1943	114.3	110.9	127.9	103.1	89.4	97.0	111.9
1944	117.6	118.2	137.8	99.5	85.3	100.5	117.2
1945	128.8	121.7	142.4	105.8	90.4	94.5	110.6
1946	119.7	119.6	136.8	100.1	87.5	99.9	114.3
1947	134.0	126.0	146.7	105.8	91.3	94.5	109.5
1948	122.1	123.7	135.4	98.7	90.2	101.3	110.9
1949	103.7	118.3	125.0	87.7	83.0	114.1	120.5
1950	100.1	111.7	116.5	89.6	85.9	111.6	116.4

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MINNEAPOLIS, MINN.

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465 Merchants Exchange
SAN FRANCISCO, CALIF.

810 Board of Trade
PORTLAND, ORE.

Destination of Flour Exports

(In Long Tons Grain Equivalent)

Destination	Wheat	Wheat flour—Wholly of U.S. wheat*	Wheat flour—Not wholly of U.S. wheat†
North, Central & South America:			
Canada	461	7,045	16,039
Mexico	332,985	6,513	288
Cuba	36,277	128,743	6,540
Br. W. Indies	.....	61,866	19,467
Neth. Antilles	.....	4,058	5,300
Fr. W. Indies	.....	2,791	.....
Other Caribbean	1,138	50,281	8,677
Central America	15,024	79,151	16,651
Colombia	12,503	6,986	9,208
Venezuela	681	80,157	31,719
Guianas	.....	7,348	1,298
Ecuador	15,895	24,255	1,831
Peru	92,445	1,969	1,972
Bolivia	4,892	12,958	3,584
Chile	75,422	3,562	18
Brazil	571,718	11,856	1,266
Total	1,381,351	489,539	123,858
Europe:			
Iceland	117	8,050	.....
Norway	51,394	56,441	.....
Denmark	11,739	10,102	.....
U. K.	516,157	19	100
Netherlands	277,535	97,724	137
Belgium-Luxembourg	191,492	191	.....
France	9,500	33	31
Germany	1,208,639	157	107
Austria	190,311	10,819	.....
Switzerland	66,412	50	2
Italy	435,711	7,102	.....
Portugal	69,928	1,424	440
Azores	2,562	.....	5
Greece	187,516	8	34
Yugoslavia	411,944	.....	752
Total	3,832,214	192,120	1,608
Africa:			
Egypt	298,288	3,142	32,578
Canary Islands	43,596	1,057	37
W. Br. Africa	.....	53,198	8,918
Port. W. Africa	9,411	12,882	1,965
Belgian Congo	31	4,001	9,656
B. East Africa	.....	.....	31
Mozambique	10,381	31	31
Un. of So. Africa	69,739	.....	114
Others	499	3,059	1,582
Total	431,945	77,370	54,912
Asia:			
Syria	.....	5	.....
Lebanon	14,406	39,081	2,508
Israel-Palestine	138,027	34,445	.....
Jordan	.....	296	.....
Arabian Peninsula	9,054	35,374	700
India	563,494	94	.....
Ceylon	.....	13,379	.....
British Malaya	.....	552	.....
Indonesia	.....	30,881	212
Philippines	1	110,113	52
Port. Asia	.....	7,418	.....
Formosa (Taiwan)	47,767	35,141	1
Hong Kong	18	11,261	122
Japan	664,986	2,359	.....
Korea	91,377	437	.....
Others	14,400	9,744	.....
Total	1,754,434	330,580	3,595
Oceania:			
Fr. Pac. Islands	5	6	.....
Others	.....	258	87
Total	5	264	87
World total	7,399,949	1,089,873	184,060
Equivalent, 1,000 bu.	276,262	40,688	6,871

Compiled from records of the Bureau of the Census, U.S. Department of Commerce. Excludes exports to the U.S. Armed Services abroad, but includes those under the Army Civilian Supply Program.

*Includes macaroni and products and durum wheat and semolina.

†Includes flour from foreign wheat, mostly Canada, milled in bond and subsequently exported.

CORN CONTROL LAWS

To guard against the danger of the corn borer, some states have passed regulations against the inbound movement of unscreened whole corn. There are six such states: Arizona, California, Nevada, New Mexico, Oregon and Washington. The regulations involve screening the corn for eligible entry.

INFORMATION ABOUT THE GRAIN TRADE

CONTRACT GRADES OF PRINCIPAL GRAINS

The following information has been prepared by the Commodity Exchange Authority of the U. S. Department of Agriculture, as a means of easy reference to the deliverable grades of grain, flaxseed, soybeans and millfeeds that may be tendered on futures contracts on the various markets licensed under the Commodity Exchange Act.

At the present time futures trading is provided for in one or more of the commodities—wheat, corn, oats, rye, barley, flaxseed, millfeeds, soybeans, cottonseed oil meal and soybean oil meal—on 10 "contract markets": Board of Trade of the City of Chicago, Chicago Open Board of Trade, Board of Trade of Kansas City, Mo., Memphis Merchants Exchange Clearing Assn., Milwaukee Grain Exchange, Minneapolis Grain Exchange, Seattle Grain Exchange (during 1954 there was no futures trading in barley, and all futures trading was dormant at the Duluth Board of Trade, Portland Grain Exchange and San Francisco Grain Exchange, although not officially suspended).

Effective May 1, 1953, the designation of Los Angeles Grain Exchange as a contract market under the Commodity Exchange Act was vacated, at the request of the exchange.

Merchants' Exchange of St. Louis is still designated as a contract market but has rescinded all its rules which provided for futures trading.

As a matter of convenience the grades of grain deliverable on Winnipeg Grain Exchange contracts are also listed, although trading on that market is not subject to the provisions of the Commodity Exchange Act. Futures trading in wheat on Winnipeg Grain Exchange was suspended Sept. 28, 1942.

Although trading in grain and flaxseed contracts may be conducted for delivery in each calendar month, it is largely confined to contracts calling for delivery in May, July, September and December, which are called the "major" futures.

Trading in millfeed contracts is conducted for delivery in each month throughout the year.

The units of trading in futures contracts for grain, flaxseed and soybeans on all markets included herein are lots of 5,000 bus (round lots) and 1,000 bus (job lots), or both, with these exceptions: the job lot unit of trade in oats and barley contracts at Chicago is 2,000 bus in order to successfully hedge carloads, and the unit of trading in contracts at San Francisco is 100 tons.

The units of trading in millfeeds for future delivery are 120 tons in round lots, 30 tons in job lots and 100 tons in soybean oil meal and cottonseed oil meal.

Effective after May, 1938, by order of the Secretary of Agriculture under the Commodity Exchange Act dated Feb. 17, 1938, a period of seven business days is required during which contracts for future delivery in the current delivery month of wheat, corn, oats, rye, barley or flaxseed may be settled by delivery of the actual cash commodity after trading in such contracts has ceased.

Open Contracts

A futures contract is said to be "open" when it has been entered into but not yet fulfilled by delivery or otherwise offset. Total open contracts in any specified commodity, therefore, represent the contracts in each commodity which will have to be liquidated either before maturity by offset or at maturity by delivery.

The total of open contracts is obtained each business day by a tabulation of reports made by exchange clearing members under authority of the Commodity Exchange Act. Where there was trading in both round and job lots, the totals of open contracts include both types.

Chicago

Differentials.—Unless otherwise specified, contracts for the sale of wheat, corn, soy beans, oats, rye, barley and malting barley shall be deemed to call for "contract" wheat, corn, soybeans, oats, rye, barley and malting barley, respectively. Upon such contracts, sellers, at their option, may deliver all or part of the . . . grades, at the differentials indicated, provided that lots of grain of any one grade must conform to the minimum lot requirements of Rule 290. (Rule 291, Board of Trade of the City of Chicago.)

Lots.—On future delivery contracts calling for 5,000 bus of grain, or multiples thereof, delivery shall be made in lots equal to the minimum quantity . . . specified (5,000 bus). On future delivery contracts calling for odd lots of grain, delivery shall be made in lots of 1,000 bus, with the exception of oats and barley, which shall be in 2,000 bu lots or multiples thereof. Each lot of grain delivered must be described on the delivery notice, and may be made up of various amounts of grain of the various authorized grades situated in various warehouses, provided that no lot shall contain less than 1,000 bus of any one grade in any one warehouse, except in the case of oats and barley where the minimum in any one warehouse shall be 2,000 bus of any one grade. On the last business day of the month only, members having grain bought in odd lots and sold in 5,000-bu lots may deliver odd lots on a 5,000-bu lot contract by attaching the odd lot notices firmly together and endorsing the last notice. (Rule 290.)

Variation Allowed.—Deliveries of grain in store may vary not more than 1% from the quantity contracted for, provided however, that no lot in any one warehouse shall contain less than 1,000 bus of any one grade, except in the case of oats and barley where the minimum shall be 2,000 bus. (Rule 292.)

Grades.—A contract for the sale of grain for future delivery shall be performed on the basis of the grades officially promulgated by the Secretary of Agriculture as conforming to United States Standards at the time of the making of the contract. If no such United States grades shall have been officially promulgated, then such contract shall be performed on the basis of the grades established by the rules of the Division of Grain Inspection of the Department of Agriculture of the State of Illinois, in force at the time of the making of the contract. (Rule 287.)

Deliveries, except as otherwise provided, are made by registered warehouse receipts issued by warehouses which have been declared regular by the Board. The Board by regulation may prescribe the conditions upon which warehouses may be declared regular, and the conditions upon which warehouse receipts issued by regular warehouses are deliverable. (Rule 281.) Deliveries may also be made in cars on track during the last three business days of the month under the conditions specified in rule 282. Regulation 1620 provides for regulation of warehouses and safeguarding the condition of grain in warehouses. Grain tendered for delivery must be insured against loss by fire for at least 85% of its value in accordance with rule 293.

WHEAT

Deliverable at premium, 1½¢ per bu.: No. 1 dark hard winter, No. 1 dark northern spring heavy.

Deliverable at premium, 1¢ per bu.: No. 1 hard winter, No. 1 red winter, No. 1 yellow hard winter, No. 1 northern spring heavy.

Deliverable at premium, ½¢ per bu.: No. 2 dark hard winter, No. 1 dark northern spring.

Deliverable at contract price: No. 2 hard winter, No. 2 red winter, No. 2 yellow hard winter, No. 1 northern spring.

BARLEY

Deliverable at contract price: No. 1 of Class 1, No. 2 of Class 1, No. 1 malting, No. 2 malting.

Deliverable at discount, 2¢ per bu.: No. 3 of Class 1. (Provided dockage shall not exceed 2%; allowance to be made by seller to buyer for dockage up to 2%.)

RYE

Deliverable at premium, 5¢ per bu.: No. 1 plump.

Deliverable at premium, 2½¢ per bu.: No. 2 plump.

Deliverable at premium, 1¢ per bu.: No. 1.

Deliverable at contract price: No. 2.

CORN

Deliverable at premium, 1¢ bu.: No. 1 white, No. 1 yellow.

Deliverable at premium, ½¢ bu.: No. 1 mixed, No. 2 white, No. 2 yellow.

Deliverable at contract price: No. 2 mixed.

Deliverable at discount, 2¢ bu.: No. 3 white (15½% moisture), No. 3 yellow (15½% moisture).

Deliverable at discount, 4¢ bu.: No. 3 white, No. 3 yellow.

Deliverable at discount, 4½¢ bu.: No. 3 mixed.

SOYBEANS

Deliverable at contract price: No. 1 yellow, No. 2 yellow.

Deliverable at discount, 4¢ per bu.: No. 3 yellow.

OATS

Deliverable grades of grain and premiums or discounts per bu.:

Premiums or Discounts

No. 1 extra heavy white and No. 1 extra heavy special red, +3½¢; No. 2 extra heavy white and No. 2 extra heavy special red, +3¢; No. 1 heavy white, No. 1 heavy special red, No. 3 extra heavy white and No. 3 extra heavy special red, +2¢; No. 2 heavy white and No. 2 heavy special red, +1½¢; No. 1 white, No. 1 special red, No. 3 heavy white and No. 3 heavy special red, +½¢; No. 2 white*, No. 2 special red*; No. 3 medium heavy white and No. 3 medium heavy special red, —1½¢; No. 3 white and No. 3 special red, —2½¢. (Note: Bright oats shall carry no additional premium or discount.)

*Contract price.

Grade, Quality and Weight.—The grade, quality and weight of grain deliverable upon exchange contracts shall be determined according to the rules and regulations of the Board of Trade of the City of Chicago. All such rules and regulations relative to grading, inspection, classification and weighing of grain and deliveries of other than contract grade at specified price differences, are hereby adopted and made applicable to contracts of members of this association. (Rule 516.)

Grain.—Wheat, corn, oats, rye, barley, flaxseed and soybeans. (Rule 22.)

Grades.—A contract for the sale of grain by grade shall be performed on the basis of the grades officially promulgated by the Secretary of Agriculture as conforming to the U.S. Standards at the time of making the contract. If no such grades have been officially promulgated, then such contract shall be performed on the basis of the grades established by the rules of the Division of Grain Inspection of the Department of the State of Illinois, in force at the time of the making of the contract. (Rule 515.)

Unit of Delivery.—All deliveries of grain shall be in 1,000 bu. lots or multiples thereof, except oats which shall be in lots of 2,000 or 5,000 bu. lots or multiples thereof, but variation in quantity not in excess of 1% shall not vitiate tender or delivery, provided however, that no lot in any one warehouse shall contain less than 1,000 bu. of any one grade of wheat, corn, rye or soybeans or 2,000 or 5,000 bu. of oats of any one grade. In all cases, settlement shall be made on the basis of exact quantity delivered. (Rule 508.) (See also Rule 402.)

Rules 501, 502, 513 and 514 cover date of delivery, mode of delivery, storage charges and insurance.

Rules 504, 505, 506 and 507 provide for delivery notice, method of delivery, hours of delivery, and delivery by offsetting purchase and sale.

Rules 509, 510 and 511 relate to failure to deliver, extortionate claims, and failure to accept delivery.

CRUDE SOYBEAN OIL

Contract Types.—Any one of the following types of crude soybean oil is deliverable: expeller pressed, expeller pressed degummed, solvent extracted, or solvent extracted degummed. Mixtures of one type with any other type are not deliverable. (Exchange rules are silent as to the inclusion or exclusion of oil of foreign origin.)

Contract Grade.—Must contain not more than 0.3% moisture and volatile matter; be lighter in green color than Standard "A" and, when refined and bleached, be of no deeper color than 3.5 red on the Lovibond scale; must refine with a loss not exceeding 7%; must have a flash point not below 250° F., closed cup method.

Substitutions.—No lower grade is deliverable but a higher grade may be delivered at contract price except where the refining loss is less than 7%, a premium of three fourths of 1% of the price at time of loading must be paid for each 1% under 7% refining loss.

Historical Note.—Rules providing for trading in crude soybean oil futures were adopted by the Board of Trade of the City of Chicago Dec. 28, 1949; that exchange was designated as a contract market for

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soybean oil June 30, 1950; trading was inaugurated July 17, 1950. Amendments adopted May 6, 1952, included the following provisions: adoption of "demand certificate" method of delivery, discontinuance of "track delivery," and different treatment of transit billing.

Price Basis.—"All prices . . . shall be basis Decatur, Ill., with freight adjustment to New York, N.Y., in multiples of 1/100th of one cent per pound. . . ."

Standards.—". . . American Oil Chemists' Society methods shall be followed for sampling and analysis for all tests, except for determining green color, which test shall be the National Soybean Processors Assn. tentative method. A tolerance of 150 lb. of sludge shall be allowed for each trading unit of 60,000 lb. If the car contains more than 150 lb. of sludge, an allowance shall be made to the Buyer for a total amount of sludge up to 1,000 lb. at 50% of the price at time of unloading car. Sludge in excess of 1,000 lb. shall be allowed for at the price at time of unloading car. Sludge shall be considered to be solid residue which cannot be pumped and squeegeed from the car for the net outturn weight."

Months Traded in.—Current month and any of the next following 12 months.

Delivery Points.—Decatur, Ill.; Chicago, Ill.; Indianapolis, Ind.; Louisville, Ky.; Kankakee, Ill.; Waterloo, Iowa; Decatur, Ind.; Des Moines, Iowa; Washington, Iowa; Jacksonville, Ill., and Mankato, Minn. When delivery is made at a point other than Decatur, Ill., the seller must make an adjustment to buyer by decreasing or increasing the amount due on delivery notice by the difference between carload freight from point of delivery to New York, N.Y., as compared with Decatur, Ill., to New York.

Deliveries are effected by delivery of warehouse receipts in accordance with regulation 2012 except that during the second and third business days after trading in the current month has ceased, deliveries may be made by the delivery of a demand certificate. Owner of demand certificate must give warehouseman shipping instructions within 10 business days after last permissible day for delivery of demand certificate in time for shipment of oil within this 10-day period. Warehouseman may, if he fails to receive such shipping instructions, load the oil in tank cars and sell for account of the owner.

Warehouses having facilities for storing bulk soybean oil which have been declared "regular" by the Board of Trade may issue warehouse receipts and demand certificates under conditions prescribed in Board of Trade rules and regulations, including regulations 2014-A, 2014-B, 2030, 2031, 2034 and 2035. No warehouseman may issued demand certificates in any one delivery month for soybean oil in excess of 25% of his regular storage capacity at a particular delivery point. While not specified in rules or regulations, Everette B. Harris, then secretary of the Chicago Board of Trade, advised in a letter to us dated Sept. 24, 1952, that, ". . . the Exchange will require of the warehouseman an additional bond of 2¢ lb. to cover the amount of demand certificates he desires to become authorized to issue."

Unit of Trading.—60,000 lb.

Variation Allowed.—On each contract settled by delivery of a warehouse receipt pursuant to regulation 2012, a quantity variation of 2% excess or 1% deficiency is permissible.

Daily Fluctuation Limit.—2¢ lb. above or below the clearing house settlement price on previous business day; or 2¢ above the lowest, or below the highest, price for the same session.

Source.—The source of the information included in this summary is chapter 38 of the regulations of the Chicago Board of Trade.

SOYBEAN MEAL

Deliverable grades and other details of "new" futures contract:

Grade—44% protein, 12% moisture: premium or discount*; 44% protein, moisture in excess of 12%: premium or discount**.

* Contract grade; contract price.

**Penalty for excess moisture: Above 12% up to and including 13%, per cent of excess times current destination price per ton: above 13%, 1½ times per cent of excess.

Contract Grades.—The contract grades for delivery on futures contracts made under these regulations shall be soybean meal in bulk which conforms to the following specifications: 44% protein soybean meal, produced by conditioning ground soybeans and reducing the oil content of the conditioned product by the use of solvents to 1% or less on a commercial basis. Standard specifications are:

Protein, minimum 44.0%; fat, minimum 0.5%; fiber, maximum 7.0%; nitrogen free

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extract, minimum 27.0%; moisture (when shipped by processor), maximum 12.0%. (Regulation 2053.)

Deliveries . . . shall be made by delivery of soybean meal shipping certificates issued by shippers designated by the board as regular to issue soybean meal shipping certificates for soybean meal. (Regulation 2063.) There is no provision for delivery in warehouse or on track; shipping certificate being the only form of delivery permissible. Regulation 2067 relates to date of delivery; regulations 2068, 2069 and 2070 to delivery notices.

Shipping Certificate.—A shipping certificate, the form of which is embodied in Regulation 2079, obligates the issuer (a shipper licensed by the Board of Trade), upon order of the owner of the certificate, to "deliver into railway boxcars 100 tons (2,000 lb. each) of soybean meal in bulk conforming to the standards of the Board of Trade . . . in accordance with Rules and Regulations of the board . . ." Regulations 2063-A and 2077-A relate to premium charges on shipping certificates; 2064 to registration of shipping certificates; 2076, 2077, 2078, 2079 and 2080 to various matters concerning shippers licensed to issue shipping certificates.

Delivery Points.—Soybean meal "shipping certificates" may designate shipment of soybean meal in satisfaction of futures contracts at delivery points named by the board. As of Sept. 1, 1954, the date of preparation of this summary, the following delivery points had been designated by the board: Decatur, Gibson City, Kankakee, Bloomington, Champaign, Danville and Taylorville, Ill., and Clinton, Iowa. (Regulation 2065.)

Price Basis.—Free on board cars Decatur, Ill., in multiples of 5¢ ton ($5 per contract of 100 tons). (Regulation 2056.)

Unit of Trading is 100 tons (2,000 lb. ton) of soybean meal in bulk. Bids and offers may be accepted in lots of 100 tons or multiples thereof. (Regulation 2054.)

Months Traded in.—The current month and any of the next following 12 months. (Regulation 2055.)

Regulation 2059 relates to the last day of trading, 2060 to trading in the last seven days of the delivery month.

Historical Note.—The Chicago Board of Trade was designated Aug. 22, 1951, as a contract market for soybean meal. Trading in a soybean meal futures contract providing for delivery by means of a "demand certificate" exclusively was inaugurated Aug. 29, 1951. Trading in this contract is scheduled to terminate with the May, 1955, future. A "new" contract was adopted July 20, 1954. It provides for delivery solely by means of a "shipping certificate" and trading was inaugurated Sept. 1, 1954, in January, 1955, and subsequent futures. Consequently, trading is permissible concurrently in "old" and "new" contracts maturing in 1955, January to May, inclusive.

Chicago (Open Board)

Contracts for wheat, corn, oats, rye and soybeans are traded in on the Chicago Open Board and the grades of each which may be tendered on delivery are the same as for the Chicago Board of Trade, as provided in rule 516 of the Chicago Open Board of Trade, which follow:

Grade, Quality and Weight.—The grade, quality and weight of grain deliverable upon exchange contracts shall be determined according to the rules and regulations of the Board of Trade of the City of Chicago. All such rules and regulations relative to grading, inspection, classification and weighing of grain and deliveries of other than contract grade at specified price differences, are hereby adopted and made applicable to contracts of members of this association. (Rule 516.)

Grain.—Wheat, corn, oats, rye, barley, flaxseed and soybeans. (Rule 22.)

Grades.—A contract for the sale of grain by grade shall be performed on the basis of the grades officially promulgated by the Secretary of Agriculture as conforming to the United States Standards at the time of making the contract. If no such grades have been officially promulgated, then such contract shall be performed on the basis of the grades established by the rules of the Division of Grain Inspection of the Department of the State of Illinois, in force at the time of the making of the contract. (Rule 516.)

Unit of Delivery.—All deliveries of grain shall be in 1,000-bu. lots or multiples thereof except oats which shall be in 2,000- or 5,000-bu lots or multiples thereof but variations in quantity not in excess of 1% shall not vitiate tender or delivery, provided, however, that no lot in any one warehouse shall contain less than 1,000 bus of any one grade of wheat, corn, rye and soybeans or 2,000 or 5,000 bus of oats of any one grade. In all cases settlement shall be made on the basis of the exact quantity delivered. (Rule 508.) (See also Rule 402.)

Rules 501, 502, 513 and 514 cover date of delivery, mode of delivery, storage charges, and insurance.

Rules 504, 505, 506 and 507 provide for delivery notice, method of delivery, hours of delivery and delivery by offsetting purchase and sale.

Rules 509, 510, and 511 relate to failure to deliver, claims, and failure to accept delivery.

Duluth

DURUM WHEAT

Practically all transactions in wheat futures at Duluth are in durum wheat.

Deliverable at premium, 2c per bu: Nos. 1 and 2 hard amber durum wheat.

Deliverable at contract price: Nos. 1 and 2 amber durum wheat.

Deliverable at discount, 2c per bu: Nos. 1 and 2 amber mixed durum wheat, No. 3 hard amber durum.

Deliverable at discount, 3c per bu: Nos. 1 and 2 durum wheat.

Deliverable at discount, 4c per bu: Nos. 1 and 2 mixed durum wheat, No. 3 amber durum.

SPRING WHEAT

Deliverable at premium, 2c per bu: No. 1 heavy dark northern spring wheat.

Deliverable at premium, 1c per bu: No. 1 dark northern spring wheat, No. 1 heavy northern spring.

Deliverable at contract price: No. 1 northern spring wheat.

Deliverable at discount, 2c per bu: No. 2 dark northern spring wheat.

Deliverable at discount, 3c per bu: No. 2 northern spring wheat.

RYE

Deliverable at premium of 5c bu: No. 1 plump rye.

Deliverable at premium of 2½c bu: No. 2 plump rye.

Deliverable at premium of 1c bu: No. 1 rye.

Deliverable at contract price: No. 2 rye and No. 3 plump rye.

Deliverable at discount of 3c bu: No. 3 rye.

FEED BARLEY

Deliverable at premium, 2c per bu: No. 1 barley.

Deliverable at contract price: No. 2 barley.

Deliverable at discount, 4c per bu: No. 3 barley.

MALTING BARLEY

Deliverable at premium, 3c per bu: No. 1 malting barley.

Deliverable at contract price: No. 2 malting barley.

FLAXSEED

No. 1 flaxseed, contract grade. Any flaxseed, wherever grown, that shall be graded No. 1 shall be deliverable at the contract price.

No. 2 flaxseed, wherever grown, shall be deliverable at 3½c under the contract price.

Contract Grades.—The grades and differentials shown in above table are as provided in exchange rule XIV, sec. 1.

Standards.—The grades of spring wheat, durum wheat, rye, barley and flaxseed referred to in this section shall be according to the standards established under the provisions of the U.S. Grain Standards Act. (Rule XIV, sec. 1.)

Deliveries on Contracts.—All deliveries upon contracts for grain, unless otherwise expressly provided, shall be made by tender of "regular" warehouse receipts. All such warehouse receipts shall be made to run 10 days from date of delivery, at regular or customary storage charges, which regular or customary storage charges shall follow such warehouse receipts and be chargeable upon the property covered by the same. All receipts issued, and duly registered according to the laws of Minnesota or Wisconsin or the rules of the Duluth Board of Trade, by any warehouse declared "regular" by the board of directors at the time of the issuance of such receipt, shall be "regular" for delivery on contracts. (Rule XIV, sec. 12.)

Freight Bills on Deliveries.—Upon all warehouse receipts for grain delivered on contracts for future delivery, the person, firm or corporation making the delivery shall, when requested within a reasonable period thereafter, provide and deliver inbound freight expense bills, or lake tonnage manifests, representing a quantity and kind of grain equal to that covered by the receipts. The bills so delivered shall be such as will enable the grain represented by the

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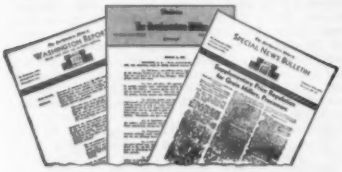

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days of the date of delivery on such proportional rates applying from Duluth as were in effect on the dates of shipments from points of origin of the grain represented by such freight expense bills. If the grain when loaded out of an elevator shall contain dockage, the elevator shall provide such additional freight bills, or lake manifest tonnage, as will enable the shipment of the gross amount of such grain on proportional rates as provided in this section. (Rule XIV, sec. 13.)

Proper Tenders of Grain.—All warehouse receipts for property tendered or delivered on contracts shall be for quantities or parcels in the aggregate, as sold, accompanied by a memorandum of the property delivered, with the price of the same together with the amount due therefor. Provided that on all time contracts of five thousand (5,000) bushels, or any multiple thereof, deliveries shall be made in lots of five thousand (5,000) bushels, and on all time contracts of one thousand (1,000) bushels, or any multiple thereof, except as provided above, deliveries shall be made in lots of one thousand (1,000) bushels. (Rule XIV, sec. 14.)

Sections 15, 16, 17, 18, 19, 20, and 21 of rule XIV relate to deliveries through the clearing house, notice of intention to deliver, how deliveries are actually made, risk or loss by fire, and passing of title.

Section 1 of rule XV covers "failure to deliver on contracts."

"Regular" Warehouses.—The Board of Directors shall have power by a majority vote of its members present and voting at any meeting to declare any warehouse, public or private, "regular" on the Duluth Board of Trade, and shall have power at any time for any reason whatsoever by a vote of a majority of its members to declare any grain elevator or warehouse, public or private, theretofore "regular" to be no longer "regular" upon said board within the meaning of these rules, without thereby releasing the owner of such elevator from the obligation of complying with all of its duties under these rules as a "regular" warehouse as to all grain then in such elevator. (Rule XVII, sec. 1.) Grain elevators or warehouses at "the head of Lake Superior" may be declared "regular." (Rule XVII, sec. 2.) See Rule XVII, sections 2 to 18, inclusive, for requirements relating to "regular" warehouses.

Kansas City, Mo.

Deliveries on Future Contracts.—All warehouse receipts deliverable on contracts shall be for quantities or parcels, in the aggregate as sold, accompanied by a memorandum of the property to be delivered, with the price of the same, together with the amount due therefor; but in no case shall the warehouse receipts of any one elevator which are tendered on a contract be in the aggregate for less than 1,000 bus, or in the case of grain sorghums 56,000 lbs, and if two or more different grades are tendered on a contract, in no case shall the warehouse receipts of any one elevator for any one grade be in the aggregate for less than 1,000 bus, or 56,000 lb. in the case of grain sorghums; provided, on all contracts for five thousand (5,000) bus of grain, or 280,000 lbs of grain sorghums, or any multiple thereof, deliveries shall be made in lots of five thousand (5,000) bus, or 280,000 lbs of grain sorghums; and on all contracts for one thousand (1,000) bus of grain (56,000 lbs of grain sorghums), or any multiple thereof, deliveries shall be made in lots of one thousand (1,000) bus (56,000 lbs of grain sorghums); a variation, however, of 2% in the quantity of grain delivered and that contracted for shall not vitiate a tender of delivery. Any excess or deficit within the above limits shall be settled for at the current market. (Rule 255.)

Standards.—In the event of a change in United States Standards for grain, all contracts for future delivery made after the issuance of the order of the Secretary of Agriculture promulgating such change, and maturing after the effective date of such change, shall be made on the basis of the standards as changed; provided, that this shall not be construed to prevent the closing of trades made prior to the issuance of such order. (Rule 267.)

Quantities.—The delivery of track grain on regular contracts shall be for quantities or parcels in the aggregate as sold, provided, on all contracts for five thousand (5,000) bus, or in the case of grain sorghums 280,000 lbs, or multiples thereof, deliveries shall be made in lots of five thousand (5,000) bus (grain sorghums, 280,000 lbs), and on all contracts for one thousand (1,000) bus (grain sorghums, 56,000 lbs), or multiples thereof, deliveries shall be made in lots of one thousand (1,000) bus (grain sorghums, 56,000 lbs). A variation, however, of 10% between the quantity of the grain contracted for and the quantity of grain delivered as shown by the bill of lading weights, shall not vitiate a tender of delivery. (Rule 282.)

Fluctuations.—In trading in grain sorghums for future delivery, bids and offers at fractional prices less than ¼c per 100 lbs shall not be permitted. (Resolution of Board of Directors, adopted Sept. 15, 1944.)

WHEAT

Deliverable at premium, 1c per bu: No. 1 dark hard winter, No. 1 hardy winter, No. 1 yellow hard winter and No. 1 red winter.

Deliverable at contract price: No. 2 dark hard winter, No. 2 hard winter, No. 2 yellow hard winter and No. 2 red winter.

Deliverable at discount, 3¢ per bu.: No. 3 dark hard winter, No. 3 hard winter, No. 3 yellow hard winter and No. 3 red winter.

HARD WHEAT*

Deliverable at premium, 1¢ per bu.: No. 1 dark hard winter, No. 1 hard winter, No. 1 yellow hard winter.

Deliverable at contract price: No. 2 dark hard winter, No. 2 hard winter, No. 2 yellow hard winter.

Deliverable at discount, 3¢ per bu.: No. 3 dark hard winter, No. 3 hard winter, No. 3 yellow hard winter.

CORN†

Deliverable at premium, ⅛¢ per bu.: No. 1 yellow.

Deliverable at contract price: No. 2 yellow.

Deliverable at discount, 1⅛¢ per bu.: No. 3 yellow (15½% or less moisture).

OATS

Deliverable at premium, ⅛¢ per bu.: No. 1 white, No. 2 white, No. 1 red, No. 2 red, No. 1 special red, No. 2 special red.

Deliverable at contract price: No. 3 white, No. 3 red, No. 3 special red, No. 2 mixed.

Deliverable at discount, ⅛¢ per bu.: No. 3 mixed.

GRAIN SORGHUMS

Deliverable at contract price: No. 1 milo, No. 1 bright milo, No. 1 yellow milo, No. 1 bright yellow milo, No. 1 kafir corn, No. 1 bright kafir corn, No. 1 white kafir corn, No. 1 bright white kafir corn, No. 1 red kafir corn, No. 1 bright red kafir corn, No. 1 white sorghums, No. 1 bright white sorghums, No. 1 yellow sorghums, No. 1 bright yellow sorghums, No. 2 milo, No. 2 bright milo, No. 2 yellow milo, No. 2 bright yellow milo, No. 2 kafir corn, No. 2 bright kafir corn, No. 2 white kafir corn, No. 2 bright white kafir corn, No. 2 red kafir corn, No. 2 bright red kafir corn, No. 2 white sorghums, No. 2 bright white sorghums, No. 2 yellow sorghums, No. 2 bright yellow sorghums.

Deliverable at discount, 2¢ cwt.: No. 1 mixed sorghums‡, No. 1 bright mixed sorghums‡, No. 2 mixed sorghums‡, No. 2 bright mixed sorghums‡, No. 3 of foregoing descriptions are deliverable at discount of 4¢ per cwt. under price of No. 2 of similar description‡.

*Exchange rule 250(a), providing for a contract restricted to hard winter wheat, was adopted Oct. 13, 1953, effective Oct. 14, 1953 for July, 1954, and later futures. Simultaneous trading in the older contract, deliverable grades for which are shown in first table of this summary, is permissible.

†Amended deliverable grades and differentials for corn adopted Oct. 18, 1954, effective Oct. 19, 1954. (Rule 251.) "By written agreement of all parties with open commitments in corn at the time of the new rule, it was agreed to abide by the conditions of this new rule, so that it would be unnecessary to have old and new contracts." (Memorandum from Louis E. Wolf, Nov. 15, 1954.)

‡And consisting of 70% or more of grain sorghums of the types white kafir, white durra, yellow milo or red kafir, singly or combined and not more than 10% of brown sorghums.

Note re Wheat Contracts.—Exchange rule 250 specifies the deliverable grades, premiums and discounts applicable to the older or so-called "wheat" contract. Exchange rule 250(a) does likewise for the newer or so-called "hard wheat" contract. The terms of both contracts are identical except that delivery of the three grades of red winter wheat permitted on the older contract is prohibited on the newer contract.

MILLFEED FUTURES

Trading conducted in bran and shorts:

BRAN

Deliverable at contract price: "Contract bran" (wheat bran).

SHORTS

Deliverable at contract price: "Contract shorts" (gray shorts).

Millfeeds traded on the Board of Trade of Kansas City, Mo., for future delivery consist of "contract millfeeds" and a tender of any of the following by-products resulting from 80% extraction of flour from wheat shall be deemed valid: "Standard wheat bran," "pure wheat bran," "wheat mill run," "wheat mixed feed," "brown shorts," or "gray shorts"; provided, however, that by-products from durum wheat will not be a valid tender. The unit of trading for future delivery shall be 120 tons in round lots and 30 tons in job lots. (Rules 290, 291, 292.) To be a valid tender upon futures contracts cars of millfeed must contain 30 tons (or 600 sacks of 100 lb. net weight each when packed)—no more and no less; . . . (Rule 299(h).) Millfeed tendered upon contracts for future delivery must be packed in new 100 lb. net weight burlap sacks or cotton sacks (when packed), of dimensions not less than 40 in. by 48 in. for bran, and 40 in. by 46 in. for shorts, and must be cool, sound and sweet and conform to the description provided in these rules (Rules 290 and 291); provided, that no carload of millfeed shall be a valid tender unless the contents are packed exclusively in burlap sacks or in cotton sacks and provided further that when millfeed in cotton sacks is tendered such sacks shall be of 4.25 yard minimum weight; provided, further, that deliveries may be made in used burlap sacks or cotton sacks of the dimensions specified above at discounts under the contract price as determined by the Millfeed Committee, and it shall be the duty of the said Committee to announce not later than seven days prior to the first day of every delivery month the discounts which shall prevail during said month for millfeed packed in such containers, but no used sack shall be tendered on delivery unless it shall be sound and durable and shall have been cleaned and fumigated after its last use and the seller shall in every such case certify that the sacks have been cleaned and fumigated as herein required; and provided, further, that whenever it shall appear to the satisfaction of the Board of Directors that there is a marked shortage of new and used burlap and cotton bags and that paper sacks are currently being used to pack millfeed the Board may by resolution authorize deliveries of millfeed packed in paper sacks of such specification as the Board may prescribe, and in such event the Millfeed Committee so long as such resolution is in effect shall announce not later than seven days prior to the first day of every delivery month the discount which shall prevail during said month for millfeed packed in such paper containers. Carloads of millfeed to be valid for delivery must be of only one mill's manufacture, and the sacks must be properly tagged or labeled to show the name of the manufacturer and the description or analysis of the contents. (Rule 301.)

All contracts made for **Wheat Bran** shall be understood as for "contract bran," and on such contracts a tender of bran to be valid must conform to the following description: Wheat bran shall consist of the coarse outer covering of the wheat kernel as separated from cleaned and scoured wheat in the usual process of commercial milling and may include ground wheat screenings and scourings mill run but not to exceed 8.0%. Durum wheat bran shall not be a valid tender for delivery. (Rule 290.)

All contracts for **Gray Shorts** shall be understood as for "contract shorts," and on such contracts a tender of shorts to be valid must conform to the following description: Gray shorts shall consist of fine particles of the outer bran, the inner bran or bee-wing bran, the germ, and the offal or fibrous materials obtained from the "tail of the mill." This product must be obtained in the usual process of commercial milling of wheat and shall not contain more than 6.0% crude fiber. It may contain ground wheat screenings and scourings mill run but not to exceed 8.0%. (Rule 291.)

Memphis

Deliverable grades of soybean oil meal as amended July 31, 1952, effective Aug. 4, 1952, on August, 1952, and Dec. 9, 1953.

Grade—Expeller process: corn or corn products mixture (maximum), 5%; protein (minimum), 41%; moisture (maximum), 12%; premium or discount, contract price.

Grade—Solvent process: Corn or corn products mixture (maximum), 5%; protein (minimum), 44%; moisture (maximum), 12%; premium or discount, contract price.

The contract was changed from a "sacked" to a "bulk" basis Oct. 24, 1950, effective October, 1951, and subsequent futures; was amended March 16, 1951, effective March, 1952, and subsequent futures, to provide additional delivery points; was amended Sept. 14, 1951, effective immediately, to change description to accord with official description of National Soybean Processors Assn.; and was duly amended

Continental Grain Co.

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Milling Wheat, Coarse Grains, Railroad and Water Shipments, Receivers, Shippers, Terminal Storage, Country Storage, Futures

Nov. 30, 1953, to provide for this so-called "unrestricted" contract in addition to the socalled "optional" contract, covered by our summary dated May 22, 1952. The contract provides for the delivery of 200,000 lb. in bulk of 44% protein solvent soybean meal (solvent process), produced within the United States of America, deliverable at seller's option at any authorized delivery point as provided in Rule 312 f.o.b. basis Decatur, Ill., freight rates, as defined in Rule 311, to buyer's declared destination in continental U.S., either in cars or by Demand Certificate. The soybean meal must in all respect meet the requirements of Rules 301 and 302. (Rule 310.)

"Description—Soybean meal to be . . . deliverable against sales contracts is the product resulting from the grinding of flakes obtained after extracting part of the oil from soybeans through the use of solvent process." (Rule 300.)

"Official Grades—The soybean meal must be 44% protein solvent process as described in the current trading rules of the National Soybean Processors Assn.

"Good Delivery—The standard of quality shall be soybean meal of fair merchantable quality based on the season's production and conforming to standard definitions and standard specifications of the National Soybean Processors Assn., which are herewith made a part of these Trading Rules and which specifications are subject to modification from season to season as conditions may warrant, upon recommendation of the Technical Committee of the National Soybean Processors Assn.

"A tender of soybean meal for delivery varying in weight more than 3% shall not be accepted, but if the variation is not more than 3% it shall be accepted for delivery. Such variation in weight shall be adjusted between the seller and the buyer at market price on the date of shipment of last car completing delivery." (Rule 302.)

Rules 303, 304, 305, 313 and 314 relate to seller's warranty of weights, claims for short weight, allowances, delivery in cars, and delivery by demand certificate.

"Delivery Points — Designated delivery points are: Bloomington, Ill.; Champaign, Ill.; Chicago, Ill.; Danville, Ill.; Decatur, Ill.; Gibson City, Ill.; Kankakee, Ill., and Taylorville, Ill. All deliveries at the above points shall be f.o.b. basis Decatur, Ill., freight rates to final destination as defined in Rule 311." (Rule 312.)

"Other Delivery Points—The board may change the designated delivery points from time to time, and such changes shall become regular 30 days after their announcement, and shall apply to all contracts made before, on and after the date on which each such change becomes effective." (Rule 315.)

"Settlement Basis of Contract — Final liquidation of contracts traded in this market shall be by delivery in the manner described in these rules. Shipment from point of delivery shall be via railroad and the final price shall be the settlement price plus the lowest lawful carload freight rate on soybean meal from Decatur, Ill., to any destination within the limits of Continental U.S. declared by the receiver of the delivery notice. The seller shall prepay freight to destination and may apply soybean transit on the outbound movement and may specify routing except delivering carrier.

"This rule is subject to two exceptions, as follows:

(a) If the meal is delivered at Decatur, Ill., and the buyer elects to order the meal unloaded at the delivery point, thereby causing the seller to lose soybean transit, the buyer shall pay to the seller the value of the unused transit, such value not to exceed 14¢ cwt., and the seller shall deliver to the buyer endorsed paid freight bills representing such unused transit.

(b) If the buyer declares Decatur, Ill., as his destination on the delivery notice, and the delivery is made at a delivery point other than Decatur, Ill., then the final settlement price shall be the contract price plus the lowest lawful carload freight rate on soybean meal from such point of delivery to Decatur, Ill. The seller shall prepay the freight and may apply soybean transit on the railroad movement to Decatur, Ill., and may specify routing except delivering carrier." (Rule 311.)

Milwaukee

Deliverable Grades.—Deliverable grades of commodities on this exchange are the same as those deliverable on the Chicago Board of Trade. Futures trading on the Milwaukee Grain Exchange "contemplates delivery of Chicago warehouse receipts in fulfillment of futures contracts."*

Contracts for the purchase or sale of commodity futures are "deemed to be for the standard of quality or grade as established by the United States Department of Agriculture under the provisions of the Grain Standards Act" where such grades are established. The establishment of new grades or changes in established grades does not affect the validity of pending contracts. Commodities officially graded under the provisions of rules in force at the time of delivery are deemed to be valid tender on futures contracts. (Rule 105, sec. 7.)

Deliveries by Warehouse Receipt.—All deliveries of futures commodities are "made in warehouse receipts" for grain in warehouses approved or declared regular by the Board of Directors. Deliveries are made in lots of 1,000 or 5,000 bus with a variation of 1% permitted. Grain in cars, however, may be tendered on contracts under specified conditions. Warehouse receipts of licensed public elevators whose receipts are deliverable in fulfillment of futures contracts "under the rules of other regularly organized exchanges, and which prior to the making of the contract have been approved by the Board of Directors of the Association," are deliverable on futures contracts of this exchange. Such organized exchanges must be specified at the time the contracts are made. The contract grades provided by "such regularly organized exchanges" are "the grades deliverable when warehouse receipts of warehouses which are regular under the rules of such regularly organized exchanges are deliverable in fulfillment of future contracts. (Rule 105, sec. 1.) The Chicago Board of Trade is the only exchange approved under this provision of the rules. Any such approval may be revoked at any time. (Rule 105, sec. 1.)

*Letter from H. A. Plumb, secretary of the Milwaukee Grain & Stock Exchange, to the Commodity Exchange Administration, Nov. 10, 1939.

WHEAT

Deliverable at premium, 1½c per bu: No. 1 dark northern spring heavy, No. 1 dark hard winter.

Deliverable at premium, 1c per bu: No. 1 northern spring heavy, No. 1 hard winter, No. 1 yellow hard winter and No. 1 red winter.

Deliverable at premium, ½c per bu: No. 1 dark northern spring and No. 2 dark hard winter.

Deliverable at contract price: No. 1 northern spring, No. 2 hard winter, No. 2 yellow hard winter and No. 2 red winter.

CORN

Deliverable at premium, 1½c per bu: No. 1 white, No. 1 yellow, No. 2 white and No. 2 yellow.

Deliverable at contract price: No. 1 mixed, No. 2 mixed.

Deliverable at discount, 2c per bu: No. 3 white, No. 3 yellow.

Deliverable at discount, 2½c per bu: No. 3 mixed.

RYE

Deliverable at premium, 5¢ bu.: No. 1 plump.

Deliverable at premium, 2½c bu: No. 2 plump.

Deliverable at premium, 1c bu: No. 1 rye.

Deliverable at contract price: No. 2.

OATS*

Deliverable at premium, 3½¢ per bu.: No. 1 extra heavy white, No. 1 extra heavy special red.

Deliverable at premium, 3¢ per bu.: No. 2 extra heavy white, No. 2 extra heavy special red.

Deliverable at premium, 2¢ per bu.: No. 3 extra heavy white, No. 3 extra heavy special red, No. 1 heavy white, No. 1 heavy special red.

Deliverable at premium, 1½¢ per bu.: No. 2 heavy white, No. 2 heavy special red.

Deliverable at premium, ½¢ per bu.: No. 1 white, No. 1 special red, No. 3 heavy white, No. 3 heavy special red.

Deliverable at contract price: No. 2 white, No. 2 special red.

Deliverable at discount, 1½¢ per bu.: No. 3 medium heavy white, No. 3 medium heavy special red.

Deliverable at discount, 2½¢ per bu.: No. 3 white, No. 3 special red.

*Bright oats carry no additional premium or discount.

BARLEY†

Deliverable at premium, 3¢ per bu.: No. 1 malting (sub-class A).

Deliverable at premium: 2¢ per bu.: No. 2.

Deliverable at contract price: No. 2 malting (sub-class A), No. 2.

Deliverable at discount, 4¢ per bu.: No. 3.

MALTING BARLEY†

Deliverable at premium, 3¢ per bu.: No. 1 malting (sub-class A).

Deliverable at contract price: No. 2 malting (sub-class A).

†All grades are of Class 1.

Deliverable Grades.—Deliverable grades of commodities on this exchange are the same as those deliverable on the Chicago Board of Trade. Futures trading on the Milwaukee Grain Exchange "contemplate delivery of Chicago warehouse receipts in fulfillment of futures contracts." (Letter from H. A. Plumb, Secretary, Milwaukee Grain & Stock Exchange, to Commodity Exchange Administration, Nov. 10, 1939.) Contracts for the purchase or sale of commodity futures are "deemed to be for the standard of quality or grade as established by the U.S. Department of Agriculture under the provisions of the Grain Standards Act" where such grades are established. The establishment of new grades or changes in established grades does not affect the validity of pending contracts. Commodities officially graded under the provisions of rules in force at the time of delivery are deemed to be valid tender on futures contracts. (Rule 105, sec. 7.)

Deliveries by Warehouse Receipt.—All deliveries of futures commodities are "made in warehouse receipts" for grade in warehouses approved or declared regular by the board of directors. Deliveries are made in lots of 1,000 or 5,000 bu. with a variation of 1% permitted. Grain in cars, however, may be tendered on contracts under specified conditions. Warehouse receipts of licensed public elevators whose receipts are deliverable in fulfillment of futures contracts "under the rules of other regularly organized exchanges, and which prior to the making of the contract have been approved by the board of directors of the association," are deliverable on futures contracts of this exchange. Such organized exchanges must be specified at the time the contracts are made. The contract grades provided by "such regularly organized exchanges" are "the grades deliverable when warehouse receipts of warehouses which are regular under the rules of such regularly organized exchanges are deliverable in fulfillment of future contracts." The Chicago Board of Trade is the only exchange approved under this provision of the rules. Any such approval may be revoked at any time. (Rule 105, sec. 1.)

Minneapolis

Warehouse receipts of certain elevators in Duluth, Minn., and Superior, Wis., which

THE HUNT MILLING CORPORATION, LTD.
CABLE ADDRESS "HUNTMILL" ESTABLISHED 1854
FLOUR & FEED MILLERS
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BOARD OF TRADE • KANSAS CITY, MO.

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A. H. FUHRMAN, Vice President and Kansas City Manager — J. D. TINKLEPAUGH

MILLING WHEAT • CORN • OATS • FEED GRAINS

have been declared regular by the board of directors of the Minneapolis Grain Exchange, may be delivered upon Minneapolis spring wheat, oats, rye, barley and corn futures at the Minneapolis contract bases, and upon Minneapolis flaxseed futures at ¼¢ per bu. discount under the Minneapolis contract basis.

Contract Grades and Standards.—Except as hereinafter provided, all Futures Contracts made in this market shall call for the delivery of the Contract Grade, or another Deliverable Grade, of the commodity specified in such contracts, in accordance with the United States Standards which were in effect at the time such contracts were made.

Provided, however, that after the date on which an amendment to the United States Standards for any commodity has been announced, and prior to the date upon which such amendment becomes effective, Futures Contracts in such commodity may be made which call for delivery on or after the date upon which such amendment becomes effective, in accordance with the United States Standards as so amended, if the making of such contracts has been duly authorized by the Association.

Provided further, that the provisions of this section shall not be construed to prevent the closing, on and after the effective date of such change, of trades which were made, on the basis of the old standards, prior to the effective date of such change. (See Rules and Regulations under Commodity Exchange Act, Sec. 1.45.) (Rule 1002.) The contract grades of commodities shall be as set forth below and such grades shall be deliverable at the contract price: No. 1 Northern Spring Wheat on the Spring Wheat future; No. 2 Amber Durum on the Durum Wheat future; No. 2 Yellow Corn; No. 2 White Oats; No. 2 Barley on the Feed Barley future; No. 3 Malting Barley on the Malting Barley future; No. 2 Rye; No. 1 Flaxseed. Other grades are deliverable at specified premiums or discounts. (Rule 1003.)

Deliveries:—How Made.—Delivery on Futures Contracts shall be made by the delivery of registered warehouse receipts for commodities "In Store" in an elevator which is "Regular" under the Rules of the Association. Such receipts must be for a Contract or other Deliverable Grade of the commodity specified in the Futures Contract, in accordance with the United States Standards made applicable to such contract by the provisions of Section 1002, and must be accompanied by freight bills (and/or checks) as provided in this Chapter.

Attention is directed to the fact that, under the law, warehouse receipts call for the delivery by the warehouseman of commodities of the kind and grade specified in the receipt, in accordance with the official standards which were in effect at the time the commodities represented by the receipts were graded.

All warehouse receipts delivered on Futures Contracts must bear dates, which, under the interpretation of the law hereinabove stated, make them conform to the requirements of this section. (Rule 1004.)

Quantities Deliverable.—Deliveries of all commodities on Futures Contracts shall be in lots of one thousand (1,000) bus or multiples thereof, except in the case of Flaxseed, in which deliveries shall be in lots of five hundred (500) bus or multiples thereof. (Rule 1001.)

Contract Price.—The contract price for Futures Contracts cleared by the Clearing Association shall be the last settling price for such contracts with the Clearing Association. (Rule 1007.)

WHEAT

Deliverable at premium, 2¢ per bu.: No. 1 heavy dark northern spring.

Deliverable at premium, 1¢ per bu.: No. 1 dark northern spring, No. 1 heavy northern spring.

Deliverable at contract price: No. 1 northern spring.

Deliverable at discount, 1¢ per bu.: No. 2 dark northern spring.

Deliverable at discount, 2¢ per bu.: No. 2 northern spring.

DURUM WHEAT

Deliverable at premium, 2¢ per bu.: No. 1 hard amber, No. 2 hard amber.

Deliverable at contract price: No. 1 amber, No. 2 amber.

Deliverable at discount, 2¢ per bu.: No. 1 amber mixed, No. 2 amber mixed, No. 3 hard amber.

Deliverable at discount, 3¢ per bu.: No. 1, No. 2.

Deliverable at discount, 4¢ per bu.: No. 3 amber.

FEED BARLEY†

Deliverable at premium, 1¢ per bu.: No. 1, No. 1 malting.

Deliverable at contract price: No. 2, No. 2 malting.

Deliverable at discount, 2¢ per bu.: No. 3.

†Trading is dormant.

RYE

Deliverable at premium, 2¢ per bu.: No. 1 plump.

Deliverable at premium, 2¢ per bu.: No. 2 plump.

Deliverable at premium, 1¢ per bu.: No. 1

Deliverable at contract price: No. 2, No. 3 plump.

Deliverable at discount, 3¢ per bu.: No. 3.

MALTING BARLEY†

Deliverable at contract price: No. 1 malting barley, No. 2 malting barley.

†Trading is dormant.

CORN

Deliverable at contract price: No. 1 yellow, No. 2 yellow.

Deliverable at discount, 2½c per bu: No. 3 yellow.

WHITE OATS

Deliverable at premium, 5¢ per bu.: No. 1 extra heavy, No. 1 extra heavy bright.

Deliverable at premium, 4¢ per bu.: No. 2 extra heavy, No. 2 extra heavy bright.

Deliverable at premium, 3¢ per bu.: No. 3 extra heavy, No. 3 extra heavy bright.

Deliverable at premium, 2¢ per bu.: No. 1 heavy, No. 1 heavy bright.

Deliverable at premium, 1½¢ per bu.: No. 2 heavy, No. 2 heavy bright.

Deliverable at premium, 1¢ per bu.: No. 1, No. 1 bright.

Deliverable at premium, ½¢ per bu.: No. 3 heavy, No. 3 heavy bright.

Deliverable at contract price: No. 2, No. 2 bright.

Deliverable at discount, 1¢ per bu.: No. 3 medium heavy.

Deliverable at discount, 3¢ per bu.: No. 3, No. 3 bright.

FLAXSEED

Deliverable at contract price: No. 1 flaxseed.

Deliverable at discount, 5¢ per bu.: No. 2 flaxseed.

Portland

WHEAT

All trades shall be on the basis of bulk wheat of grades conforming to the official United States standards, track and/or elevator and/or warehouse, subject to the following discounts and differentials:

DELIVERIES MADE BY TENDERS OF WAREHOUSE RECEIPTS

Deliverable at contract price: No. 1 hard white wheat, No. 1 soft white, No. 1 white club, No. 1 western white, No. 1 heavy dark northern spring, No. 1 heavy northern spring, No. 1 heavy red spring, No. 1 dark northern spring, No. 1 northern spring, No. 1 red spring, No. 1 dark hard winter, No. 1 hard winter, No. 1 yellow hard winter, No 1 western red.

Deliverable at discount, 1c per bu: No. 2 of the above subclasses.

Deliverable at discount, 3c per bu: No. 3 of the above subclasses.

Deliveries on contracts may be tendered either in cars on track at Portland, or in regular warehouses or elevators at Portland, or in elevators or warehouses at country points which have been designated regular by the board of directors. (Secs. 2, 3 and 4, Trading Rule XVI).

DELIVERIES MADE ON TRACK

Deliverable at contract price: No. 1 of the above subclasses.

Deliverable at discount: Nos. 2 and 3 of the above subclasses shall be accepted at the published discounts, differentials and service charges of the Portland Grain Exchange in effect at the time trade is executed.

Portland Grain Exchange schedule of differentials, discounts and service charges in effect at time trade is executed shall govern final settlement as it applies to smutty wheat, sacked differentials, resacking, bad order sacks and interest charges. (Secs. 1 and 2, Trading Rule XV.)

San Francisco

All contracts, except car lot transactions as provided in rule X of the San Francisco Grain Exchange, made through the caller for the future delivery of inspected grain are known as "time contracts."

Deliveries of grain upon "time contracts" must be made in warehouses designated as "regular" or f.o.b. cars under the provisions of rule XIII, sec. 1, of the rules of the San Francisco Grain Exchange.

Time Contracts — "All contracts made through the Caller for the future delivery of inspected grain shall be known as 'Time Contracts'; provided, however, that this rule shall not apply to cash call board transactions." (Rule 1.)

Standards—". . . All 'Time Contracts' shall provide for the delivery thereunder of commodities of grades conforming to U.S. Standards, if such standards shall have been officially promulgated." (Rule 11.)

Contract Unit—"At all sessions, unless otherwise specified, all offers to buy or sell grain shall be in lots of 100 tons in burlap bags." (Rule 3.)

Deliveries—"All deliveries of grain upon 'Time Contracts' must be made in warehouses designated as 'regular,' as defined in Rule 260 and under any one of the three following methods:

"(a) Delivery may be made in any public warehouse in the State of California designated as 'regular,' as defined in Rule 260, unless otherwise expressly agreed upon, located on regular rail or water transportation routes, except in such warehouses as may be located in the cities of San Francisco and Oakland, and shall be made by tender of regular negotiable warehouse receipts which shall have attached thereto a certificate of a duly authorized inspector, giving the grade of the property to be delivered and the date of inspection. All such warehouse receipts shall be made to run at least five days from the date of delivery free of storage charges, and all earned storage, including season's storage on such warehouse receipts, shall be for the benefit of the buyer. The seller on making delivery shall deduct from the price at which the contract stands the accrued warehouse charges to date of delivery together with any loading out charges and the regular rail or water transportation freight rate prevailing at the time of delivery from such warehouse to San Francisco; provided in any event that the deduction for transportation shall be made of at least 5¢ per cental. On all such deliveries, a notice of delivery shall be made by the seller to the buyer three days prior to such delivery.

"(b) Delivery may be made on three days' notice in any public warehouse in the cities of San Francisco and Oakland with storage and loading out charges deducted, as provided in Subsection (a) of Section 1 of this rule, provided the seller shall further deduct 5¢ per cental from the delivery price as a freight allowance or shall furnish free transit satisfactory to the buyer. Delivery may also be made f.o.b. cars in the cities of San Francisco and Oakland on seven days' notice, with a deduction of 2½¢ per cental additional to be made by the seller and under the same provisions for transit and freight as provided in the foregoing portion of this subsection.

"(c) Delivery may be made f.o.b. cars at points other than in San Francisco and Oakland with a deduction of 2½¢ per cental to be made by the seller together with the regular transportation freight rate to San Francisco; provided in any event that the deduction for transportation shall be made of at least 5¢ per cental; provided, further, that seven days' notice be given by the seller to the buyer of his election to make delivery in said manner." (Rule 240.)

WHEAT

"Unless otherwise specified, all sales and purchases of wheat on 'Time Contracts' shall be on the basis of No. 1 hard white and/or No. 1 soft white—with No. 1 white club and/or No. 1 western white deliverable at a discount of 5¢ per cental—all to be on the basis of Federal Grades, in burlap bags, and subject to the Exchange Schedule of Differentials, Discounts and Dockages in effect on the date contract is made." (Rule 246.)

Deliverable at contract price: No. 1 hard white wheat, No. 1 soft white.

Deliverable at discount, 5¢ per cental: No. 1 white club wheat, No. 1 western white.

BARLEY

"Unless otherwise specified by the Caller, all barley contracts for future delivery shall be understood to be for No. 2 bright western barley, Official Grain Standard of the U.S., in making deliveries of which seller shall deliver barley in burlap bags, of such test weight per bushel as the Board of Directors shall determine during the month of June each year, provided that the seller may deliver to the buyer: No. 2 western barley of the same standard test weight at a discount of 50¢ ton, or No. 2 bright western barley of a test weight 1 lb. less than the standard test weight at a discount of 50¢ ton, or No. 2 western barley of a test weight of 1 lb. less than the standard test weight at a discount of $1 ton." (Rule 245.)

Deliverable at discount, 50¢ ton: No. 2 western barley (season's standard test

weight), No. 2 bright western (test weight 1 lb. less than the season's standard test weight).

Deliverable at discount, $1 ton: No. 2 western barley (test weight 1 lb. less than the season's standard test weight).

Seattle

WHEAT

All sales and purchases on futures contracts shall be on basis bulk wheat, federal grades, subject to discounts and differentials applicable on futures contracts as adopted by the Seattle Grain Exchange.

Deliverable at contract price: No. 1 soft white wheat, No. 1 western white, No. 1 white club, No. 1 hard winter, No. 1 yellow hard winter, No. 1 northern spring, No. 1 red spring, No. 1 western red, No. 1 dark northern spring, No. 1 dark hard winter, No. 1 hard white.

No. 2 and No. 3 wheat shall be accepted on contract at the regular Seattle Grain Exchange discounts and differentials. Wheat taking a grade lower than No. 3 is not applicable on contract.

Sacked wheat, of the grades specified above, may be delivered on contracts at the differentials established by the Seattle Grain Exchange, in effect at the time of delivery.

Delivery on contracts may be tendered in cars at Auburn, Black River Junction, Interbay, or other established diversion points west of the Cascades; in regular warehouses or elevators at Seattle and Tacoma; also in elevators and warehouses at country points which have been declared regular by the board of trustees.

Winnipeg

WHEAT

(Futures trading suspended Sept. 28, 1943.)

Deliverable at contract price: No. 1 Manitoba northern wheat, higher grade wheat.

Deliverable at discount, 3¢ per bu.: No. 2 Manitoba northern wheat.

Deliverable at discount, 8¢ per bu.: No. 3 Manitoba northern wheat.

Deliverable at discount, 12¢ per bu.: No. 1 Canadian western garnet wheat.

Deliverable at discount, 15¢ per bu.: No. 2 Canadian western garnet wheat.

Deliverable at discount, 18¢ per bu.: No. 4 Manitoba northern wheat.

Deliverable at discount, 22¢ per bu.: special No. 4 wheat.

OATS

Contract grade: No. 2 Canada western oats with the privilege of delivering:

(a) Higher grade oats.

(b) Extra No. 3 Canada western oats at a discount of 3¢ bu.

(c) No. 3 Canada western oats at a discount of 3¢ bu.

(d) Extra No. 1 feed oats at a discount of 3¢ bu.

(e) No. 1 feed oats at a discount of 5¢ bu.

BARLEY

Contract grade: No. 3 Canada western six-row barley with the privilege of delivering:

(a) No. 1 Canada western six-row barley, No. 2 Canada western six-row barley, No. 1 Canada western two-row barley, No. 2 Canada western two-row barley, at the same price.

(b) No. 4 Canada western six-row barley at a discount of 4¢ bu.

(c) No. 3 Canada western two-row barley at a discount of 4¢ bu.

(d) No. 1 feed barley at a discount of 4¢ bu.

Minneapolis Grain, Flour and Feed Movement

Note: By calendar years, 000's omitted. Source: Minneapolis Grain Exchange.

RECEIPTS

	Flour, sacks	Millfeed, tons	Bushels Wheat	Corn	Oats	Barley	Rye	Flaxseed	Totals, grain
1954.....	*..	*..	133,061	32,758	38,223	65,841	4,163	35,871	†317,198
1953.....	*..	*..	120,291	29,691	38,399	54,924	2,275	19,567	265,147
1952.....	*..	*..	142,871	22,496	35,892	64,008	5,724	22,319	293,312
1951.....	*..	*..	163,293	21,424	36,557	66,318	9,837	23,648	321,077
1950.....	*..	*..	122,049	24,332	26,463	62,314	6,559	30,827	272,544
1949.....	*..	*..	140,270	34,702	38,750	76,524	8,024	22,647	320,917
1948.....	*..	*..	142,911	35,497	45,313	60,045	9,448	40,048	323,262
1947.....	*..	*..	157,068	24,766	70,583	76,137	7,014	20,730	356,297
1946.....	*..	*..	117,992	18,971	70,981	63,653	4,806	14,218	289,631
1945.....	*..	*..	126,109	30,744	72,302	58,230	6,128	19,324	312,737
1944.....	*..	*..	189,171	11,355	52,457	59,431	4,529	17,936	334,979
1943.....	*..	*..	208,976	12,087	58,905	78,560	13,943	26,951	400,478
1942.....	*..	*..	138,708	19,169	45,689	58,807	13,346	25,142	300,361
1941.....	*..	*..	134,375	16,205	32,450	54,215	18,941	19,685	275,869

*Figures not available. †Includes soybeans.

SHIPMENTS

	Flour, sacks	Millfeed, tons	Bushels Wheat	Corn	Oats	Barley	Rye	Flaxseed	Totals, grain
1954.....	13,066	550	49,545	32,651	29,500	47,241	2,543	3,713	†175,876
1953.....	14,407	533	40,720	29,232	35,979	43,788	1,667	4,498	155,886
1952.....	14,439	536	51,478	21,171	28,780	56,340	3,442	3,954	165,167
1951.....	15,383	526	60,878	21,157	28,915	54,026	7,211	7,447	179,634
1950.....	14,829	620	36,261	21,037	19,273	49,774	6,192	6,207	137,744
1949.....	15,430	644	49,013	31,255	34,048	53,816	6,361	2,932	167,475
1948.....	13,146	557	56,236	18,425	37,070	53,768	7,398	5,898	184,795
1947.....	15,991	819	65,943	22,141	56,808	58,212	3,086	3,894	209,883
1946.....	14,327	887	49,379	15,842	71,251	50,894	3,533	5,047	195,646
1945.....	14,207	930	58,648	27,509	51,985	45,895	4,349	3,839	202,135
1944.....	13,115	1,008	101,523	9,618	46,867	47,192	5,730	2,963	213,893
1943.....	12,726	835	117,744	11,828	48,780	57,111	9,180	3,729	248,863
1942.....	13,216	528	58,647	17,289	37,350	41,264	7,727	3,186	165,463
1941.....	11,507	400	32,267	21,239	25,589	36,005	7,182	1,900	123,181

†Includes soybeans.

Toledo Grain Movement

Note: By Calendar Years, in bushels, 000's omitted. Source: Toledo Board of Trade.

RECEIPTS

Year:	Wheat	Corn	Oats	Rye	Barley	Soybeans	Total
1954.....	39,467,786	33,475,328	7,856,588	102,153	152,521	8,317,631	89,372,507
1953.....	32,126,106	25,087,195	4,574,085	45,737	201,600	7,452,455	69,487,178
1952.....	24,285,923	17,308,509	4,355,231	24,000	240,000	5,686,192	51,899,855
1951.....	23,951,413	14,581,769	4,732,104	88,786	196,800	6,926,495	50,477,367
1950.....	20,891,745	16,609,370	3,726,000	65,600	144,000	4,130,626	45,567,341
1949.....	28,631,032	12,887,700	5,837,390	158,400	472,000	5,792,020	53,778,542
1948.....	28,170,300	6,580,900	2,860,000	289,600	404,800	4,715,800	43,021,400
1947.....	22,415,226	7,106,000	3,865,470	225,600	400,000	6,291,700	40,303,996
1946.....	19,564,115	7,926,400	5,582,100	46,000	609,600	4,869,900	38,598,415
1945.....	33,284,840	4,009,600	3,273,320	24,000	1,195,395	5,355,200	47,142,355
1944.....	30,044,685	2,992,000	3,686,526	34,500	1,347,000	5,236,200	43,339,905
1943.....	21,858,135	6,296,000	5,924,685	718,500	2,647,470	2,099,200	43,543,990
1942.....	15,576,685	8,023,300	6,478,765	1,864,300	1,150,000	4,038,200	37,131,650

SHIPMENTS

Year:	Wheat	Corn	Oats	Rye	Barley	Soybeans	Total
1954.....	20,544,097	20,147,924	5,605,000	27,200	36,400	4,383,974	50,744,595
1953.....	17,042,238	16,725,575	2,987,500	14,400	8,000	3,402,113	40,179,826
1952.....	7,560,546	10,077,557	3,095,000	16,000	17,600	3,745,024	24,511,727
1951.....	11,434,200	9,872,517	3,760,000	46,400	25,600	4,029,035	29,217,752
1950.....	8,236,947	11,060,970	3,343,500	33,600	43,200	4,283,623	27,001,840
1949.....	14,175,342	10,370,000	4,860,000	177,600	36,800	5,281,166	34,900,908
1948.....	15,494,400	3,933,800	2,227,500	158,400	86,400	4,228,200	26,128,700
1947.....	8,807,535	5,389,000	3,307,500	150,400	40,000	2,322,200	20,016,635
1946.....	9,216,200	4,666,200	5,229,600	43,000	227,000	2,081,700	21,484,000
1945.....	20,740,000	2,059,600	2,310,000	19,500	582,000	2,283,600	27,994,700
1944.....	16,541,000	1,200,000	2,692,200	357,000	642,000	2,596,800	24,029,000
1943.....	4,964,900	3,795,200	3,146,500	1,452,000	1,431,000	2,068,800	18,858,400
1942.....	5,642,000	6,085,000	3,777,900	563,900	542,900	1,028,100	17,639,800

Suppliers Of Fancy Hard Red Spring Wheat To Discriminating Millers Since 1887

OSBORNE McMILLAN ELEVATOR COMPANY

MINNEAPOLIS, DULUTH, MINNESOTA

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Champions are proven

that's why millers have confidence in

Whether it's a product or a blue ribbon setter, champions are proven *in the field!* And that's true—even in the science of producing phosphates. Take V-90, for example. Here's a real veteran with more than 16 years of actual field experience. No other phosphate equals its performance.

During the past 16 summers—some of them the most severe ever encountered—self-rising products have been tested in practically every section of the nation. And so has V-90! *Not once* has it failed to give the outstanding leavening performance expected of it.

All this didn't just happen. V-90 is the result of Victor's 57 years of leadership in the field of leavening. V-90 has passed every field and laboratory test for stability.

Yes, champions are *made*—not born. But, it takes *field tests* to *prove* a champion! That's why now, more than ever before, millers have confidence in V-90.

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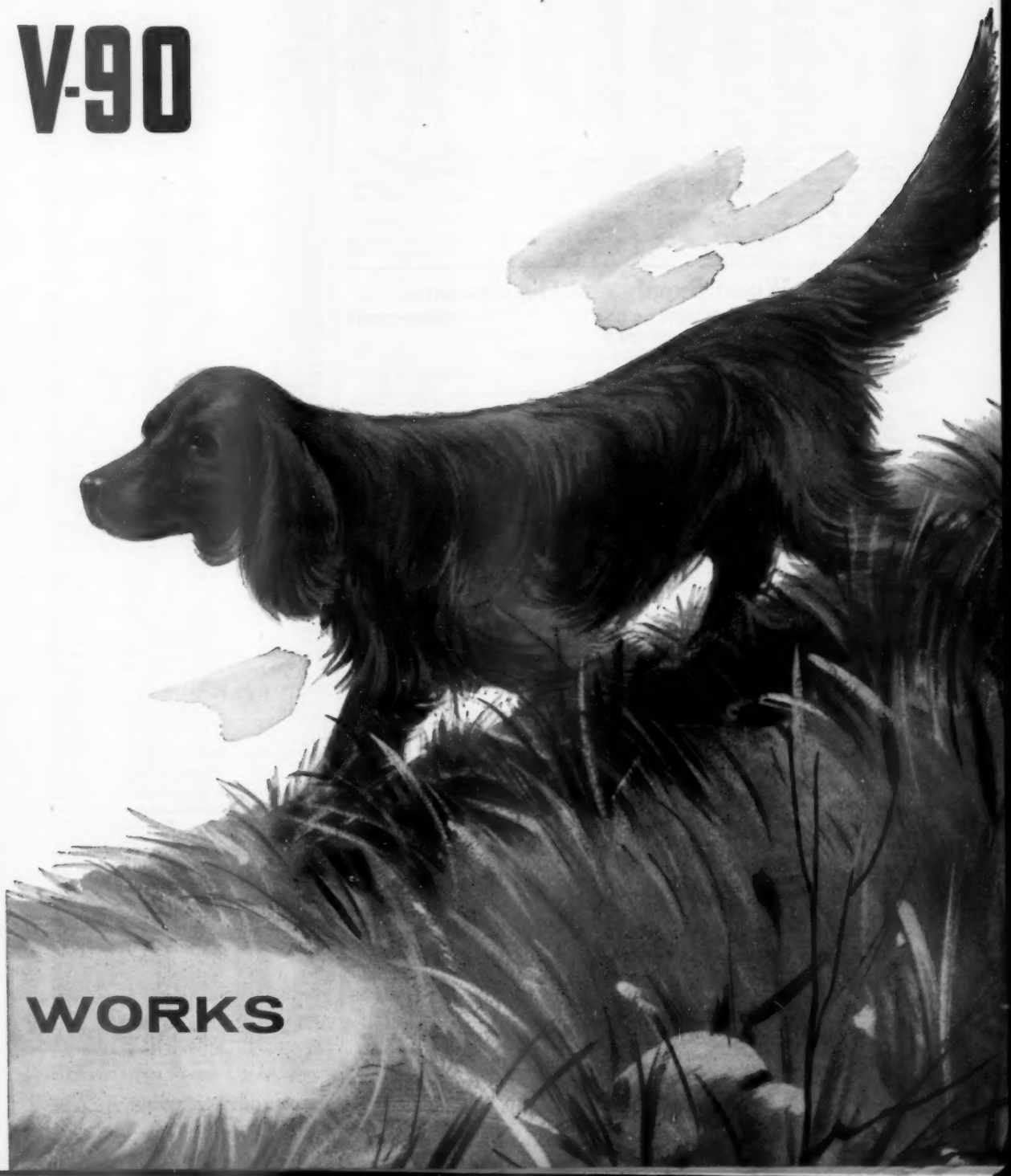
V-90



WORKS

U.S. Wheat Flour Consumption, 1935-53

Wheat Flour—Civilian Consumption, U.S., 1935-53

Year	Coasumption* year beginning—January—Commercially produced† Total 1,000 sacks	Per capita lb.	Commercially and non-commercially produced‡ Total 1,000 sacks	Per capita lb.	—July—Commercially produced† Total 1,000 sacks	Per capita lb.	Commercially and non-commercially produced‡ Total 1,000 sacks	Per capita lb.
1935	194,007	150.4	200,795	155.7	197,026	152.1	203,970	157.5
1936	202,687	156.2	209,104	161.1	200,322	153.7	206,212	158.3
1937	198,509	152.0	204,292	156 4	198,716	151.5	204,392	155.8
1938	201,716	153.3	207,481	157.7	202,968	153.5	208,822	158.0
1939	201,775	152.1	207,081	156.1	201,686	151.3	206,444	154.9
1940	199,939	149.2	204,539	152.6	202,616	151.3	207,058	154.6
1941	200,677	150.1	204,834	153.2	195,212	145.6	199,084	148.5
1942	202,365	151.8	205,859	154.4	207,436	157.6	210,552	160.0
1943	207,254	158.7	210,033	160.8	200,136	153.2	202,753	155.3
1944	188,656	144.8	191,038	146.6	196,160	150.3	198,422	152.0
1945	205,190	156.8	207,310	158.4	201,540	147.9	203,458	149.3
1946	214,899	153.2	216,687	154.4	205,457	143.8	207,115	144.9
1947	196,751	136.1	198,443	137.2	203,675	139 4	205,401	140.6
1948	198,467	134.8	200,076	135.9	200,050	134.8	201,542	135.8
1949	196,835	132.9	200,206	133.8	202,175	133.8	203,425	134.6
1950	201,003	132.0	202,240	132.8	201,035	131.6	202,259	132.4
1951	200,608	130.9	201,791	131.7	200,646	130.0	201,788	130.7
1952	201,656	129.7	202,783	130.4	199,819	127.2	200,963	127.9
1953	199,155	125.8	200,271	126.5	.....	....	.....	....

*Per capita computations are based on population data which are adjusted for underenumeration of all age groups. The population series previously used was adjusted for underenumeration of children under five. Consumption determined by adding flour imports to flour production and by deducting the following flour and products in terms of flour: Exports and shipments, military procurement and breakfast food produced in the flour milling industry.

†Bureau of Census. Includes estimates for 1940-44 which were developed by Bureau of Census in cooperation with BAE.

‡Estimated flour equivalent of farm wheat ground for flour, or exchanged for flour, as reported by BAE.

U.S. Wheat Supply and Distribution

Note: By quarters, in bushels, 000's omitted. **Source: USDA**

SUPPLY

Year and quarter—	Stocks at beginning of period—Farm	Interior mills	CCC bins	Terminal markets	Merchant mills	Total stocks	Production	Imports grain only	Total supply
1950-51—									
July-Sept.	65,861	129,522	4,900	168,497	55,934	424,714	1,019,389	402	1,444,505
Oct.-Dec.	482,251	320,831	4,734	260,104	137,422	1,205,342		1,802	1,207,144
Jan.-March	335,748	284,511	5,451	247,318	128,974	1,002,002		3,786	1,005,788
April-June	217,111	200,642	3,156	193,663	101,052	715,624		5,831	721,455
Season						424,714	1,019,389	11,821	1,455,924
1951-52—									
July-Sept.	72,638	89,159	3,002	157,848	73,587	396,234	980,810	7,153	1,384,197
Oct.-Dec.	474,667	273,021	3,790	238,443	131,963	1,121,884		10,140	1,132,024
Jan.-March	334,518	202,001	2,538	199,947	113,567	852,571		6,447	859,018
April-June	197,895	112,337	2,037	124,865	80,760	517,894		7,656	525,550
Season						396,234	980,810	31,396	1,408,440
1952-53—									
July-Sept.	63,079	57,955	1,144	93,924	39,568	255,670	1,298,957	8,640	1,563,267
Oct.-Dec.	513,218	366,477	4,321	313,561	150,243	1,347,820		8,961	1,356,781
Jan.-March	401,110	312,694	4,655	259,257	128,199	1,105,915		1,547	1,107,462
April-June	269,523	247,706	4,351	217,258	101,691	840,529		2,252	842,781
Season						255,670	1,298,957	21,400	1,576,027
1953-54—									
July-Sept.	73,105	183,328	8,364	239,330	58,408	562,535	1,168,536	381	‡1,731,452
Oct.-Dec.	563,569	458,641	25,669	359,213	134,477	1,541,569		1,098	‡1,542,667
Jan.-March	424,057	424,292	27,624	333,815	123,467	1,333,255		‡915	‡1,334,170
April-June	297,873	379,232	30,433	315,984	104,778	1,128,300			

DISTRIBUTION

Year and quarter—	Used for seed	Milled for flour*	Exports grain only	Feed & residual†	Total disappearance	Distribution in terms of domestic	Flour grain exported
1950-51—							
July-Sept.	35,101	137,544	43,033	23,485	239,163	128,172	9,372
Oct.-Dec.	25,288	132,044	52,298	—4,488	205,142	124,379	7,665
Jan.-March	1,436	142,663	92,038	54,027	290,164	129,507	13,156
April-June	25,602	124,929	134,466	40,224	325,221	111,268	13,661
Season	87,427	537,180	321,835	113,248	1,059,690	493,326	43,854
1951-52—							
July-Sept.	32,045	134,758	101,439	—5,929	262,313	124,881	9,877
Oct.-Dec.	29,088	141,147	94,706	14,512	279,453	128,765	12,382
Jan.-March	957	136,864	133,549	69,754	341,124	125,639	11,225
April-June	25,162	126,332	102,690	15,696	269,880	117,331	9,001
Season	87,252	539,101	432,384	94,033	1,152,770	496,616	42,485
1952-53—							
July-Sept.	29,606	136,035	63,361	—13,555	215,447	126,553	9,482
Oct.-Dec.	30,823	138,659	69,883	11,501	250,866	126,773	11,886
Jan.-March	2,551	130,780	88,956	44,646	266,933	120,985	9,795
April-June	24,017	123,998	54,245	77,986	280,246	114,622	9,376
Season	86,997	529,472	276,445	120,578	1,013,492	488,933	40,539
1953-54—							
July-Sept.	‡25,000	132,896	61,021	—29,034	189,883	126,205	6,691
Oct.-Dec.	‡24,500	134,914	31,315	18,683	209,412	125,428	9,486
Jan.-March	750	130,916	‡34,432	39,772	205,870	123,451	‡7,465

*Does not include Canadian wheat milled in bond but includes about 10 million bushels of wheat used annually for breakfast food. †Mostly quantity fed, but includes industrial use, waste, loss and statistical errors in estimates. ‡Partly estimated.

Canadian Wheat Exports

Note: By crop years ending July 31, in bushels, 000's omitted. Source: Dominion Bureau of Statistics.

	1953-54	1952-53	1951-52	1950-51
U. K.	65,809	102,007	108,834	76,069
Ireland	1,951	6,533	8,408	4,578
Br. S. Africa	7,723	5,676	6,108	7,899
India	4,272	14,056	18,141	11,403
Pakistan	....	14,451	....	....
Br. W. Indies	5	5	....	27
Malta	1,683	1,471	1,209	1,402
Israel	4,483	2,481	1,979	1,856
Arabia	....	54	....	66
Austria	350	2,519	1,076	....
Belgium	13,285	20,853	15,451	16,628
Belgian Congo	9	7	....	4
Bolivia	846	2,195	1,970	718
Brazil	7,706	11,089	3,824	732
Chile	....	1,477	2,946	2,874
Colombia	1,270	83	233	1,499
Costa Rica	40	88	41	93
Cuba	1,149	1,264	1,288	21
Denmark	879	2,267	837	....
Dom. Repub.	....	....	3	16
Ecuador	2,006	577	55	179
Egypt	....	7,425	424	....
France	709	1,287	6,761	249
Fr. Africa	....	....	2,589	....
Finland	162	....	671	....
Formosa (Taiwan)	80	60	....	....
Germany	20,699	24,114	15,772	145
Greece	....	698	695	....
Honduras	7	7	10	56
Hong Kong	169	3	....	....
Iceland	....	....	....	1
Italy	383	13,495	10,961	7,407
Japan	39,387	13,946	16,480	10,570
Lebanon	....	2,198	....	....
Libya	452	773	....	....
Mexico	....	....	....	2
Netherlands	6,815	15,595	11,930	376
Norway	3,187	5,889	4,704	2,709
Peru	1,567	5,566	3,552	173
Portugal	355	996	606	252
Port. Colonies	398	204	....	....
Salvador	....	....	....	20
Spain	3,425	3,202	1,406	1,004
Sweden	....	734	1,962	....
Switzerland	9,885	10,539	7,677	7,138
Syria	....	....	2,398	....
Tripoli	....	....	445	625
Turkey	....	....	....	367
U.S.	7,678	22,897	38,682	23,129
Venezuela	11	42	13	27
Yugoslavia	....	10,203	4,562	....
Total	208,835	329,026	304,703	180,315

Farm Animals in U. S.

Note: 000's omitted. **Source: USDA**

	Horses	Mules	Milk cows
1955	3,106	1,445	24,408
1954	3,401	1,599	24,675
1953	3,870	1,766	23,996
1952	4,330	1,913	23,369
1951	4,993	2,074	23,722
1950	5,274	2,149	24,573
1949	5,898	2,348	24,416
1948	6,589	2,541	25,039
1947	7,249	2,772	26,098
1946	8,053	3,010	26,695
	All cattle	Sheep	Swine
1955	95,433	26,979	55,002
1954	94,787	27,101	48,560
1953	93,696	27,857	54,632
1952	87,844	28,050	63,582
1951	88,025	27,253	62,852
1950	80,052	30,743	31,505
1949	78,298	31,654	57,128
1948	78,126	34,827	55,028
1947	81,207	37,818	56,921
1946	82,434	42,436	61,301

Canadian Exports

Note: Wheat and flour in terms of wheat, by crop years ending July 31, in bushels, 000's omitted. Source: Dominion Bureau of Statistics.

	'53-'54	'52-'53	'51-'52	'50-'51	'49-'50
Aug.	34,113	38,946	27,182	15,247	24,013
Sept.	22,736	27,326	22,161	15,257	18,294
Oct.	29,731	35,611	24,212	19,715	21,903
Nov.	23,696	36,052	34,671	20,140	27,292
Dec.	23,423	44,468	37,347	20,424	21,002
Jan.	17,352	23,562	18,523	16,315	15,102
Feb.	17,134	18,220	18,472	14,180	11,216
March	15,618	15,466	21,904	17,663	13,607
April	18,646	20,061	30,516	16,870	12,628
May	21,734	35,963	38,138	21,748	23,993
June	22,183	51,752	40,894	25,968	23,870
July	22,361	41,498	44,782	33,097	17,222
Total	268,727	388,926	358,803	236 624	230,142

Grain Elevator Storage Capacity

Elevators at Centers

	No. of elevators	Capacity, bu.
Minneapolis, Minn.	69	115,881,500
Chicago, Ill.	35	46,560,000
Duluth, Minn.	10	61,775,000
Albany, N.Y.	1	13,500,000
New York N.Y.	3	4,450,000
Buffalo, N.Y.	32	53,735,100
Kansas City, Mo.	39	72,702,000
Detroit, Mich.	4	2,500,000
Indianapolis, Ind.	8	13,300,000
Toledo, Ohio	16	24,214,000
Cincinnati, Ohio	9	6,160,000
Cleveland, Ohio	6	895,000
St. Louis, Mo.	30	30,035,000
New Orleans, La.	2	5,250,000
San Francisco and near-by points	17	2,250,000
	1	2,250,000
Seattle, Wash.	4	10,180,000
Portland, Oregon	15	246,300
Tacoma, Wash.	2	3,000,000
Baltimore, Md.	5	12,750,000
Boston, Mass.	2	2,000,000
Omaha, Neb.	19	28,235,000
St. Joseph, Mo.	7	11,123,000
Milwaukee, Wis.	20	39,760,000
Philadelphia, Pa.	4	5,755,000
Galveston, Texas	6	12,865,000
Nashville, Tenn.	14	2,553,400
Memphis, Tenn.	9	7,500,000
Hampton Roads, Newport News and Norfolk, Va.	2	2,750,000
Ft. Worth, Texas	12	36,885,000
Evansville, Ind.	4	3,995,000
Enid, Okla.	17	64,731,500
Wichita, Kansas	9	42,455,000
Hutchinson, Kansas	14	33,520,000
CANADA		
Fort William and Port Arthur, Ont.		93,202,210
Montreal, Que		15,912,000
Port Colborne, Ont.		5,250,000
Port McNicoll, Ont.		6,500,000
Vancouver, B.C.		17,653,500
New Westminster, B.C.		1,121,110
Victoria, B.C.		1,040,000
Collingwood, Ont.		2,000,000
Goderich, Ont.		4,600,000
Midland, Ont.		12,816,000
Halifax, N.S.		4,116,000
Sarnia, Ont.		5,400,000
Kingston, Ont.		2,350,000
Owen Sound, Ont		4,000,000
Prescott, Ont		5,500,000
Quebec, Que.		4,000,000
Toronto, Ont.		4,000,000
St. Boniface, Man.		2,182,000
Three Rivers, Que		5,000,000
Winnipeg, Man.		2,400,500
Transconia, Man.		1,800,000
North Transconia, Man.		1,000,000
Sorel, Que		3,000,000
Huberstone, Ont.		2,000,000
Walkerville, Ont.		1,325,000
St. John, N.B.		500,000

Baltimore

Note: In bushels. Source: Baltimore Chamber of Commerce.

Locust Point—B. & O. R. R.	4,000,000
Canton—Pennsylvania R. R. Co.	4,250,000
Port Covington—W. Maryland Ry.	4,000,000
2 Miscellaneous	500,000
Total, bus	12,750,000

Boston

Note: In bushels. Source: Boston Grain & Flour Exchange.

Boston & Maine	1,000,000
Boston & Albany (N. Y. C., Lessee)	1,000,000
Totals	2,000,000

California

Note: In tons. Source: San Francisco Grain Exchange.

San Francisco	90,000
At Oakland—	
Albers Milling Co.	35,000
West Coast Wharf & Storage Co.	*1,250,000
Stockton	109,000
Miscellaneous—	
Grangers Warehouse at Eckley	50,000
General Mills, Inc., Sperry Division, at South Vallejo	*1,000,000
Miscellaneous space	10,000

*In bushels.

Buffalo

Note: In bushels. Source: Buffalo Corn Exchange.

LAKE ELEVATORS	
Standard Milling Co.	5,000,000
Continental Grain Co. (concrete)	4,500,000
Cargill, Inc. (Superior)	3,250,000
Archer-Daniels-Midland Co. (Dellwood)	1,500,000
Cargill, Inc. (electric)	7,550,000
American Elev. & Grain Co.	3,250,000
Pillsbury Mills, Inc. (Mutual)	2,500,000
Co-operative G.L.F. Exchange, Inc.	1,900,000
Spencer Kellogg & Sons, Inc.	1,100,000
Norris Grain Co. (Marine "A")	2,100,000
Harper Feed Mills, Inc. (connecting terminal)	1,600,000
Pool Elev. Corp., Pillsbury Mills (Canadian Pool)	2,000,000
International Milling Co. (lake and rail)	4,500,000
Total	40,750,000
RAIL ELEVATORS	
Black Rock Milling Co. (Black Rock)	550,000
Eastern Farmers Exchange, Inc.	2,250,000
General Mills, Inc.	4,800,000
Best Food, Inc.	300,000
George J. Meyer Malt & Grain Co., Inc.	750,000
Perot Malting Co.	850,000
Ralston Purina Co.	1,250,000
Eleven elevators	1,735,000
Total	12,985,000
Grand total, 32 elevators	53,735,000

Canadian

Note: In bushels. Source: Board of Grain Commissioners.

	Elevators	Capacity
Manitoba—		
Public country	707	44,637,300
Private country	4	88,000
Mill	6	1,775,000
Private terminal	2	3,145,500
Semi-public terminal	2	3,500,000
	721	53,145,800
Saskatchewan—		
Public country	2,960	174,562,400
Private country	1	29,000
Mill	7	4,925,500
Public terminal	2	11,000,000
	2,970	190,516,900
Alberta—		
Public country	1,704	112,366,050
Private country	5	232,500
Mill	11	3,994,000
Private terminal	3	1,715,000
Public terminal	3	6,100,000
	1,726	124,407,550
British Columbia—		
Public country	16	1,723,000
Mill	9	1,255,100
Semi-public terminal	9	20,506,500
Public terminal	1	1,250,000
	35	24,734,600
Ontario—		
Public country	2	65,000
Mill	6	1,550,000
Private terminal	2	2,435,000
Semi-public terminal	25	91,517,210
Eastern	17	55,741,000
	52	151,308,210
Eastern—		
Quebec	8	27,912,000
New Brunswick	3	3,076,800
Nova Scotia	1	4,116,000
	12	35,104,800
Grand totals	5,516	579,217,860

Detroit

Note: In bushels. Source: Detroit Board of Commerce.

Henkel Flour Mills	1,000,000
H. W. Rickel & Co.	1,000,000
Froedtert Grain & Malting	400,000
Miscellaneous	100,000
Total	2,500,000

Canadian Upper Lake

Note: In bushels. Source: Board of Grain Commissioners.

FORT WILLIAM	
On the water front—	
Can. Consolidated Grain Co., Ltd.	1,750,000
Federal Grain Limited	3,000,000
Ft. William Elevator Co., Ltd., "F"	1,750,000
Ft. William Elevator Co., Ltd., "E"	1,750,000
Lakehead Terminals, Ltd.	1,000,000
National Grain Co., Ltd.	5,750,000
Westland Elevators, Ltd.	7,500,000
Ogilvie Flour Mills Co., Ltd.	3,000,000
Paterson & Sons, Ltd.	4,000,000
Searle Grain Co., Ltd.	5,000,000
Sask. Wheat Pool, No. 5	3,000,000
Inland—	
*Fort William Elevator Co., Ltd.	40,000
*D. L. Bole	20,000
National Grain Co., Ltd.	85,000
*J. Davidson	10,000
Ogilvie Flour Mills Co., Ltd.	180,000
Total	37,835,000
PORT ARTHUR	
On the water front—	
Can. Consolidated Grain Co.	1,500,000
Eastern Terminal Elev. Co., Ltd.	5,500,000
Canada Malting Co., Ltd.	2,350,000
Federal Grain Limited	2,250,000
Manitoba Pool Elevators, No. 1	1,300,000
Manitoba Pool Elevators, No. 2	1,400,000
Manitoba Pool Elevators, No. 9	2,000,000
McCabe Grain Co., Ltd.	3,250,000
Manitoba Pool Elevators, No. 3	3,550,000
Sask. Wheat Pool, No. 4	5,488,410
Manitoba Pool Elevators, No. 6	7,398,800
Sask. Wheat Pool, No. 7	9,000,000
Superior Elevators Co., Ltd.	900,000
United Grain Growers, Ltd.	6,500,000
Total	55,367,210
Grand total	93,202,210

*Not licensed.

Cincinnati

Note: In bushels. Source: Cincinnati Board of Trade.

Early & Daniel Co.	2,000,000
Drackett Co.	2,000,000
Cooperative Mills	750,000
6 smaller elevators operated in connection with industries	1,410,000
Total	6,160,000

Duluth-Superior

Note: In bushels. Source: Duluth Board of Trade.

General Mills, Inc., Elevator Div.	2,300,000
Globe Elevator Co.	10,000,000
Great Northern Elevator Co. (S and Annex)	12,500,000
Cargill, Inc.	2,400,000
Capitol Elevator Co.	4,200,000
Osborne McMillan Elevator Co.	3,000,000
Norris Grain Co.	4,000,000
Farmers Union Grain Terminal Ass'n.	13,000,000
G. L. Storage	3,000,000
Barnes	1,600,000
Occident Terminal Co.	4,500,000
King Midas Flour Mills	1,250,000
Duluth Universal Milling Co.	25,000
Total	61,775,000

Eastern Canadian

Note: In bushels. Source: Board of Grain Commissioners.

Collingwood, Ont.	2,000,000
Goderich, Ont	4,600,000
Humberstone, Ont.	2,000,000
Kingston, Ont.	2,350,000
Midland, Ont.	12,816,000
Owen Sound, Ont	4,000,000
Port Colborne, Ont.	5,250,000
Port McNicoll, Ont.	6,500,000
Prescott, Ont.	5,500,000
Sarnia, Ont.	5,400,000
Toronto, Ont.	4,000,000
Walkerville, Ont.	1,325,000
Montreal, Que.	15,912,000
Quebec, Que.	4,000,000
Sorel, Que.	3,000,000
Three Rivers, Que	5,000,000
Halifax, N. S.	4,116,000
St. John, N. B.	500,000
West St. John, N. B.	2,576,500
Total	90,845,500

Flour Movement at U.S. Centers

Note: By calendar years in sacks, 000's omitted. Source: Local grain exchanges.

RECEIPTS

	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945
Baltimore	2,005	2,107	1,609	2,020	2,592	3,449	2,474	7,137	6,403	5,284
Boston	....	....	2,180	....	1,100	....	....	....	....	....
Chicago	22,693	22,378	22,289	23,057	24,446	25,908	24,665	27,597	27,001	29,841
Ft. Worth	‡200	....	....	....	....	....	‡6,196	....	‡100	....
Milwaukee	954	295	723	1,408	866	1,486	1,473	1,371	1,159	579
New York	....	12,234	14,207	11,856	11,845	10,894	15,236	19,595	16,624	25,687
Philadelphia	....	....	15,166	....	....	....	3,584	....	3,691	3,738
Portland	....	....	1,730	1,541	1,414	1,874	1,284	1,094	....	....
Tacoma‡	....	....	....	579	....	....	1,482	1,222	....	....
Seattle‡	....	....	....	189	....	....	1,241	921	....	....

SHIPMENTS

Baltimore	....	....	....	....	829	1,563	1,590	4,052	*....	....
Chicago	22,107	5,889	6,820	6,304	7,655	9,732	10,055	11,174	10,868	5,108
Ft. Worth	....	....	....	....	....	....	‡130	....	‡6,365	....
Milwaukee	313	220	363	701	292	462	521	559	491	278
Minneapolis	13,066	14,407	13,383	14,289	14,829	13,430	12,146	15,991	14,327	14,207
New York	....	5,663	6,811	5,585	5,733	6,645	9,397	14,320	11,128	*....
Philadelphia	....	....	15,285	....	....	....	1,094	....	2,798	2,143
Portland	....	....	1,298	1,133	1,013	1,464	1,425	†2,292	†2,313	*....
St. Joseph	....	....	2,174	2,331	....	....	....	....	....	2,807

*Not available. ‡Cars, 000's not omitted. †Waterbound.

Wheat Movement at U.S. Centers

Note: By calendar years, in bushels, 000's omitted. Source: Local grain exchanges.

RECEIPTS

	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945
Baltimore	42,485	33,456	30,580	53,874	15,514	29,252	45,139	25,290	....	....
Chicago	27,103	24,873	28,187	17,034	22,110	36,963	26,616	44,113	21,217	27,797
New York	....	23,476	6,507	15,719	10,156	24,786	10,540	14,417	11,294	33,795
Minneapolis	133,061	120,291	142,871	163,293	122,050	140,270	142,911	157,068	117,992	126,100
Dul.-Superior	77,435	78,745	103,454	124,164	76,923	122,953	112,505	107,017	117,661	145,330
Boston	2,407	3,327	3,935	8,127	3,991	7,474	....	6,710	6,797	11,510
Toledo	39,467	32,126	24,285	23,951	20,892	28,631	28,170	22,415	19,564	33,285
Indianapolis	11,266	....	5,724	4,464	6,453	8,417	10,481	7,098	10,712	13,081
St. Joseph	....	17,718	16,317	16,234	17,354	14,351	18,120	18,152	16,522	18,744
Omaha	24,755	36,984	38,652	35,802	33,019	38,955	46,770	45,888	37,412	33,572
Kansas City	98,832	107,559	129,099	117,988	117,803	111,731	156,631	188,258	126,338	121,842
St. Louis	37,906	....	....	33,415	26,752	30,399	37,407	27,744	18,374	21,639
Philadelphia	16,031	15,088	15,166	31,885	11,001	24,730	26,530	23,445	34,567	47,543
Cincinnati	3,590	4,484	....	2,872	5,679	....	5,980	....	....	....
Milwaukee	3,448	4,157	2,891	1,562	2,444	5,136	4,517	4,960	3,666	5,894
New Orleans	10,997	6,043	12,001	9,401	4,610	4,855	12,406	7,447	3,900	....
Ft. Worth*	19,215	13,461	20,601	15,809	15,360	36,107	27,485	33,411	18,269	17,875
Seattle*	12,432	7,949	8,933	13,247	12,382	15,385	11,700	14,095	13,397	11,137
Tacoma*	9,596	10,419	12,477	13,772	7,059	9,825	7,648	9,525	12,000	8,313
Portland, Ore.	....	....	36,826	45,235	23,042	31,187	10,736	25,780	26,414	16,780
Buffalo‡	71,069	63,977	91,894	106,491	60,383	94,978	82,354	102,343	93,462	186,758
Memphis	4,001	2,195	2,051	....	....	60	86	837	397	1,231
Norfolk	....	....	....	....	....	2,388	4,658	....	....	....

SHIPMENTS

	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945
Chicago	22,107	17,578	14,472	17,034	13,845	26,761	24,034	34,986	19,020	26,530
New York	....	10,006	8,961	13,191	11,469	13,171	10,377	8,361	14,662	35,800
Minneapolis	49,545	40,720	51,478	60,878	36,261	49,013	56,236	65,943	49,379	68,648
Dul.-Superior	84,128	92,942	92,942	132,166	64,615	116,885	99,572	99,515	116,717	145,850
Boston	1,964	3,717	4,689	6,765	4,200	6,829	....	5,205	8,178	12,910
Toledo	20,544	‖17,042	7,560	11,484	8,237	14,175	15,494	8,808	9,216	20,740
Indianapolis	7,126	....	2,505	3,897	3,872	4,829	6,896	5,859	6,128	6,382
St. Joseph	....	12,711	11,594	11,207	11,222	10,313	9,452	7,712	9,897	11,361
Omaha	17,892	24,173	35,802	29,119	26,496	33,068	27,580	33,875	34,108	22,551
Kansas City	63,122	63,981	75,648	86,365	70,196	72,791	106,830	109,373	99,673	88,583
Baltimore	33,756	23,328	30,808	51,591	14,006	27,636	45,754	17,855	39,374	70,325
Philadelphia	14,545	15,383	15,285	32,720	10,953	23,412	26,022	21,272	35,961	46,266
Cincinnati	2,696	....	....	....	4,549	....	5,470	....	....	....
Milwaukee	3,375	2,102	2,522	1,613	2,133	4,371	2,932	4,683	3,341	7,144
New Orleans	22,583	15,186	30,281	30,881	15,837	19,317	2,430	31,089	22,350	....
Portland, Ore.	....	....	32,113	36,025	14,259	25,599	‖8,968	‖15,746	‖15,478	....
Ft. Worth*	6,819	9,772	10,169	12,630	8,184	15,587	12,267	‖11,080	9,756	12,943
Norfolk	....	....	....	....	....	2,225	4,898	....	....	....

*Carload, 000's not omitted. ‡Lake receipts only. ‖Includes lake shipments. †Waterbound.

U.S. Feed Grain Supply, Production & Carryover

Note: U.S. total feed grain supplies by crop year. Source: USDA

Year beginning July	Corn: Production Mil. bu.	Corn: Carryover Oct. 1 Mil. bu.	Corn: Imports Mil. bu.	Corn: Total supply Mil. bu.	Oats: Production Mil. bu.	Oats: Carryover July 1 Mil bu.	Oats: Imports Mil. bu.	Oats: Total supply Mil. bu.
Average, 1946-50	3,095	447	1	3,542	1,354	249	†14	1,618
1954*	2,965	918	1	3,884	1,500	234	†40	1,774
1953*	3,177	764	1	3,942	1,216	256	†60	1,532
1952	3,257	500	1	3,758	1,266	282	50	1,598
1951	3,105	750	..	3,855	1,372	298	30	1,700
1950	3,131	860	1	3,992	1,465	220	30	1,715
1949	3,379	825	1	4,205	1,329	295	20	1,644

Year beginning July	Barley: Production Mil. bu.	Barley: Carryover July 1 Mil. bu.	Barley: Imports Mil. bu.	Barley: Total supply Mil. bu.	Sorghum grains: Production Mil. bu.	Sorghum grains: Carryover Oct. 1 Mil. bu.	Sorghum grains: Tot. feed gr'n supply Mil. bu.	Total supply Mil. ton
Average, 1946-50	281	69	10	360	...	...	...	....
1954*	243	51	38	332	...	...	...	....
1953*	226	73	25	324	...	...	...	....
1952	222	72	†20	314	71	12	83	135.0
1951	254	93	18	365	164	36	200	149.5
1950	301	80	13	395	237	59	296	156.9
1949	237	101	18	356	153	19	172	157.4

*Preliminary. †Tentative estimates, based on indications in December.

Grain and Other Concentrates Fed to Milk Cows on Farms, by States, 1954*

State and division	On farms where milk or cream was sold†: Lbs. fed per cow	On farms where milk or cream was sold†: Tot. fed 1,000 tons	On all farms where milk was produced: Lbs. fed per cow	On all farms where milk was produced: Tot. fed 1,000 tons
Maine	1,590	98	1,810	110
N. H.	1,590	48	1,560	50
Vermont	1,630	226	1,620	229
Mass.	1,920	113	1,900	116
R. I.	2,210	21	2,150	22
Conn.	2,030	108	2,000	111
N. Y.	2,000	1,358	1,980	1,380
N. J.	2,510	188	2,470	192
Pa.	2,290	1,023	2,250	1,064
N. Atl.	2,063	3,183	2,038	3,274
Ohio	1,920	885	1,890	905
Ind.	1,950	596	1,920	622
Ill.	1,960	791	1,930	828
Mich.	1,830	782	1,810	802
Wis.	1,790	2,075	1,790	2,082
E. N. C.	1,860	5,109	1,845	5,239
Minn.	1,590	1,091	1,580	1,103
Iowa	1,790	912	1,770	941
Mo.	1,620	711	1,580	781
N. Dak.	1,320	234	1,300	247
S. Dak.	1,230	179	1,210	189
Neb.	1,450	288	1,420	306
Kansas	1,500	359	1,480	387
W. N. C.	1,575	3,774	1,554	3,954
Del.	1,900	34	1,820	36
Md.	2,030	236	1,980	250
Va.	1,570	256	1,460	321
W. Va.	1,210	84	1,110	116
N. C.	1,980	194	1,660	325
S. C.	1,710	60	1,350	110
Ga.	1,690	138	1,390	247
Fla.	3,640	222	3,220	245
S. Atl.	1,904	1,224	1,647	1,650
Ky.	1,490	371	1,420	452
Tenn.	1,450	363	1,370	476
Ala.	1,550	129	1,320	274
Miss.	1,230	200	1,100	313
Ark.	1,380	180	1,250	268
La.	1,260	123	1,060	175
Okla.	1,360	264	1,280	318
Texas	1,580	507	1,440	692
S. Cent.	1,436	2,137	1,310	2,968
Mont.	1,170	52	1,120	59
Idaho	1,260	131	1,240	136
Wyo.	1,190	22	1,140	25
Colo.	1,460	103	1,420	115
N. Mex.	1,240	21	1,150	27
Ariz.	1,340	28	1,280	30
Utah	1,330	65	1,290	69
Nev.	1,030	6	930	7
Wash.	1,670	202	1,620	214
Ore.	1,570	151	1,520	160
Calif.	1,930	778	1,900	794
West	1,640	1,559	1,592	1,636
U. S.	1,739	16,986	1,659	18,721

*Includes grain, millfeeds and other concentrates.

†Slightly more than one half of the nation's 3.6 million farms which produce milk sell some milk or cream. Approximately six seventhe of the milk cows are located on these farms and they produce about nine tenths of the total milk. Included among them are many farms on which as few as 1, 2 or 3 cows are milked and where production of milk is only a minor farm enterprise.

BATTER PROCESS

A method originated in 1943 by Carl E. Rist at the Northern Regional Research Laboratory, Peoria, Ill., for the separation of starch and gluten from flour, is called the batter process. It consists first in making a smooth thin dough or batter; then in the presence of additional water the batter is stirred vigorously to free the starch from the gluten and break the latter into small lumps. By this technique the separation of those constituents is greatly facilitated and the operation may be made continuous. Separation of the gluten from the starch is done by means of a 60-80 mesh scalping screen over which the starch and gluten slurry is passed together with a spray of water for washing purposes. The gluten scalps over the tail of the screen in the form of wet lumps while the starch and soluble proteins wash through the meshes of the screen in the form of a water slurry and are recoverable by means similar to those used in the starch and distilling industries.

Chicago (Private)

Note: In bushels. Source: Chicago Board of Trade

Grain warehouses in the Chicago district, except those declared "regular" under the rules of the Board of Trade of the City of Chicago, whose certificates are accepted for delivery on Chicago Board of Trade contracts and warehouses under federal and state license, but are not regular for delivery on Chicago Board of Trade contracts; Jan. 18, 1955, with capacities:

Operated by—	
Arcady Farms Milling Co.	95,000
American Maize Products Co.	450,000
J. J. Badenoch Co.	225,000
Bisbee Linseed Co.	135,000
Columbia Malting Co.	1,000,000
Hales & Hunter Co. (2)	2,500,000
Corn Products Refining Co.	1,350,000
B. A. Eckhart Milling Co.	1,000,000
*Gerstenberg & Co.	390,000
Fleischmann Malting Co.	1,950,000
A. Schwill & Co.	3,000,000
Star & Crescent Milling Co.	187,000
Spencer Kellogg, Inc.	1,046,000
Total	13,328,000

*Operated under custodian rule of Board of Trade.

Chicago (Public)

Note: In bushels. Source: Chicago Board of Trade

Regular warehouses for storage of grain under the rules of the Chicago Board of Trade on Jan. 18, 1955, with capacities in bushels:

Under federal license; certificates accepted for delivery on Chicago Board of Trade contracts under Commodity Exchange Act, section 5A (7):	
J. J. Badenoch Co.	375,000
Rosenbaum Bros., Belt Elev.	650,000
Norris Grain Co.—	
Calumet Elevator	2,800,000
Norris Elevator	2,150,000
Cargill, Inc.	20,000,000
Continental Grain Co.—	
Continental Elevators A & B	5,000,000
Continental Elevator D	1,200,000
Continental Elevator J	1,100,000
Continental Standard Elev.	350,000
Stratton Grain Co.	800,000
Glidden & Co.	2,265,000
Illinois Grain Terminal Co.	2,750,000
Sante Fe Elevator Corp.—	
Kensington	320,000
Sante Fe Elevator	1,800,000
Farmers Grain Dealers Assn. of Iowa (Co-op)	1,200,000
General Mills, Inc.	
Star Grain Div.	2,750,000
States Grain Corp.	400,000
Total	45,910,000

PREVIOUS TOTALS

1954	46,560,000	1946	26,763,000
1953	38,242,000	1945	27,313,000
1952	27,740,000	1944	27,559,000
1951	38,049,000	1943	27,559,000
1950	38,099,000	1942	31,417,000
1949	28,049,000	1941	28,917,000
1948	26,791,000	1940	26,418,000
1947	27,413,000	1939	29,407,000

Galveston

Note: In bushels. Source: Galveston Cotton Exchange and Board of Trade.

Elevator B—Galveston Wharf Co.	5,865,000
Star Mill—Texas Star Flour Mills.	500,000
Sunset—Sunset Elevator Co.	1,000,000
Houston	
Houston Public Elevator	3,500,000
Continental Grain Co.	1,500,000
Port Arthur	
KCS Elevator	500,000
Total	12,865,000

Evansville, Ind.

Note: In bushels. Source: Chamber of Commerce.

Igleheart Brothers Division	3,250,000
Charles Nunn & Sons Milling Co.	225,000
Evansville Grain Cooperative, Inc.	515,000
J. A. McCarty Seed Co.	60,000
Total	4,050,000

Enid

Note: In bushels. Source: Enid Board of Trade.

Continental Grain Co.	2,000,000
Consumers' Cooperative Assn.	16,500
Enid Terminal Elevators	2,000,000
Farmers Grain & Seed Co.	25,000
Okeene Milling Co.	130,000
Geis Mills	48,000
General Mills, Inc.	2,100,000
W. B. Johnston Grain Co. (2)	4,475,000
W. B. Johnston Grain Co., Clo-worth Elevator	12,000
Palecek Mills	25,000
Pillsbury Mills, Inc.	2,500,000
Salina Terminal Elevator Co.	1,000,000
Union Equity Coop. Exchange (4)	50,300,000
Total	64,731,500

Fort Worth

Note: In bushels. Source: Fort Worth Grain & Cotton Exchange.

Frank Bailey Grain Co.	450,000
Bewley Mills	850,000
Burrus Mills	8,250,000
Cargill, Inc.	600,000
Continental Grain Co.	900,000
Kimbell Milling Co.	6,500,000
Interstate Grain Corp.	2,700,000
Producers Grain Corp.	4,000,000
Universal Mills	1,280,000
Uhlmann Elevators Co. of Texas—	
Katy Plant	3,500,000
Heard Elevator	5,000,000
Rock Island Plant	1,500,000
Smith Elevator	100,000
Feed mills and misc.	1,255,000
	36,885,000

Hutchinson

Note: In bushels. Source: Hutchinson Board of Trade Assn.

Geo. E. Gano Grain Corp.	4,300,000
Security Elevator Co., "A"	2,445,000
Standard Milling Co.	100,000
C. D. Jennings Grain Co.	4,500,000
Farmers' Co-op. Commission Co., "A"	5,500,000
Farmers' Co-op. Commission Co., "B"	10,000,000
Western Terminal Elevator Assn.	1,500,000
Collingwood Grain Co.	1,900,000
Smoot Grain Co.	635,000
Davidson Grain Co.	660,000
J. M. B. Carey Grain Co.	125,000
Total	31,725,000
Private Elevators and Mills:	
Security Elevator "B"	25,000
Wm. Kelly Milling Co.	1,000,000
Commander-Larabee Milling Co.	770,000
Total	1,795,000
Total elevator capacity	33,520,000

Hampton Roads, Norfolk and Newport News, Va.

Note: In bushels. Source: The Northwestern Miller.

Norfolk Municipal, operated by Norfolk & Western	750,000
Norfolk Western, operated by Continental Grain Co.	2,000,000
Total	2,750,000

Equipped and manned to serve you well

DEL MAR ELEVATOR, MINNEAPOLIS, MINNESOTA—CAPACITY 13,000,000 BUSHELS

- CORN
- WHEAT
- OATS
- BARLEY
- WHEATY BARLEY
- SCREENINGS
- GROUND PRODUCTS
- SOYBEAN OIL MEAL
- LINSEED OIL MEAL
- SCREENINGS OIL FEED
- FORMULA FEEDS
- CONCENTRATES

ARCHER QUALITY

ARCHER-DANIELS-MIDLAND COMPANY

"Creating New Values from America's Harvests"

Minneapolis, Minnesota

OFFICES: MINNEAPOLIS • DULUTH • PORTLAND • BUFFALO
OMAHA • KANSAS CITY • MILWAUKEE • SIOUX CITY

Kansas City, Mo.

Note: In public and private elevators. In bushels. Source: Kansas City Board of Trade.

Alton Elevator — Salina Terminal Elevator Co.	1,000,000
Burlington—Norris Grain Co.	2,500,000
Checkerboard Elevator Co.	2,800,000
Chicago-Great Western Elevator—Wolcott & Lincoln Co.	1,000,000
Corn Products Refining Co.	500,000
Eagle Elevator—Scoular-Bishop Grain Co.	280,000
Elevator "A," Santa Fe—Burrus Mills, Inc.	10,000,000
Farmers Union Fairfax Elevator	3,150,000
K.C.S. Norris Grain Co.	1,400,000
Kansas-Missouri—Continental Grain Co.	5,750,000
Katy Elevator—Bunge Corp.	3,300,000
Mid-Continent—Mid-Continent Grain Co.	1,250,000
Milwaukee Elevator—Cargill, Inc.	2,900,000
Norris Elevator—Norris Grain Co.	3,700,000
River-Rail—Hart-Bartlett-Sturtevant Grain Co.	6,000,000
Rock Island Elevator — Simonds-Shields-Theis Grain Co.	5,000,000
Standard Mig. Co. (3 elevators)	5,000,000
Wabash Elevator—Uhlmann Grain Co.	4,100,000
Feed mills, smaller elevators (13)	1,222,000
	60,852,000

FLOUR MILL ELEVATORS:

Continental Baking Co.*	500,000
Kansas Flour Mills Co.	2,350,000
Commander-Larabee Milling Co.	1,350,000
General Mills, Inc., Central Div.	4,000,000
Midland Flour Milling Co.	400,000
Rodney Milling Co.	2,500,000
Sunshine Biscuits, Inc., Milling Division	400,000
Waggoner-Gates Milling Co. (Independence, Mo.)	350,000
	11,850,000
Kansas City total	72,702,000

*Leased to Flour Mills of America, Inc.

Indianapolis

Note: In bushels. Source: Indianapolis Board of Trade.

Acme-Evans Co.	1,250,000
Early & Daniel Co.	2,000,000
Cleveland Grain Co.	2,750,000
Noblesville Milling Co.	700,000
Glidden Co	3,000,000
National Starch Products Co.	250,000
Indiana Grain Co-operative, Inc.	2,500,000
Evans Milling Co., Inc.	850,000
Total	13,300,000

Memphis

Note: In bushels. Source: Memphis Merchants Exchange.

Municipal Elevator	1,750,000
Quaker Oats Co.	1,000,000
Seven miscellaneous	4,250,000
Continental Grain Co.	500,000
	7,500,000

Kansas Mills

Note: Elevator capacities in bushels. Source: The Northwestern Miller.

Town—	No. mills	At mill	Supplementary
Abilene	2	2,650,000	240,000
Arkansas City	2	950,000	20,000
Atchison	2	2,120,000	350,000
Buhler	1	335,000	225,000
Claflin	1	240,000	20,000
Clyde	1	110,000	.....
Coffeyville	1	775,000	.....
Ellinwood	1	325,000	36,000
Great Bend	2	790,000	.....
Hays	1	300,000	387,000
Hudson	1	250,000	150,000
Hutchinson	2	1,800,000	2,325,000
Inman	1	125,000	425,000
Kingman	1	351,000	259,000
Leavenworth	1	250,000	.....
Liberal	1	600,000	240,000
Lindsborg	1	450,000	200,000
McPherson	2	985,000	300,000
Moundridge	1	300,000	.....
Newton	4	5,288,000	546,000
Russell	1	400,000	.....
Salina	4	3,150,000	3,600,000
Topeka	2	350,000	1,600,000
Wellington	1	2,800,000	2,000,000
Whitewater	1	760,000	.....
Wichita	3	9,328,800	2,370,000
Winfield	1	427,800	835,000
Kansas City, Kans.	2	800,000	.....
	44	36,990,600	16,128,000

Milwaukee

Note: In bushels.

Archer-Daniels-Midland Co. (2)	125,000
Cargill, Inc.	3,000,000
Courteen Seed Co.	125,000
Froedtert Gr. & Malting Co.	8,650,000
Kamm, P. C., Co.	250,000
Krause, Chas. A., Milling Co.	1,500,000
Kurth Malting Co.	2,500,000
Ladish Malting Co.	7,000,000
Neacy, J. L.	100,000
Pabst Brewing Co.	1,400,000
Red Star Yeast & Products Co.	75,000
Rice, J. Walter	30,000
Riebs Co., The (2)	975,000
Schlitz, Jos., Brewing Co.	750,000
Smith, Werner G., Co.	115,000
Stratton Grain Co. (2)	3,900,000
Teweles, L., Seed Co.	165,000
Wisconsin Malting Co.	2,500,000
Zinn Malting Co.	1,600,000
Total	39,760,000

Nebraska Mills

Note: Elevator capacities in bushels. Source: The Northwestern Miller.

Town—	No. mills	At mill	Supplementary
Chadron	1	140,000	.....
Crete	1	1,000,000	.....
Fairbury	1	60,000	40,000
Fremont	1	210,000	.....
Grand Island	1	640,000	.....
Holdrege	1	50,000	200,000
Humboldt	1	120,000	170,000
Lexington	1	50,000	200,000
Lincoln	1	4,000,000	.....
Neligh	1	60,000	.....
Norfolk	1	29,500	2,500
Omaha	2	1,600,000	70,000
	13	7,959,500	682,500

Minneapolis-St. Paul

Note: In bushels. Source: Minneapolis Grain Exchange.

REGULAR

Hallet & Carey Co.	1,300,000
Continental Grain Co.	1,300,000
Archer-Daniels-Midland Co.	13,388,000
Russell-Miller Milling Co.	4,200,000
Minn. Linseed Oil Co.	276,000
Farmers Union GTA	373,700
International Milling Co.	1,250,000
Spencer Kellogg & Sons, Inc.	1,000,000
Cereal Grading Co.	950,000
Leval & Co., Inc.	4,000,000
Bunge Corp.	3,120,000
Van Dusen Harrington Co.	14,852,000
Pillsbury Mills, Inc.	70,000
Searle Grain Co.	2,000,000
Osborne-McMillan Elev. Co.	2,500,000
Cargill, Inc.	3,520,000
Victoria Elevator Co.	650,000
Total	59,749,700

NOT REGULAR

International Milling Co.	155,000
Archer-Daniels-Midland Co.	2,250,000
Minn. Linseed Oil Co.	325,500
General Mills, Inc.	1,100,000
Farmers Union GTA	4,746,300
Pillsbury Mills, Inc.	930,000
Cargill, Inc.	14,821,000
Total	24,327,800

PRIVATE ELEVATORS IN MINNEAPOLIS-ST. PAUL

Atkinson Milling Co	850,000
Hales & Hunter Co.	1,500,000
Rahr Malting Co.	1,500,000
Standard Milling Co.	1,150,000
Archer-Daniels-Midland Co.	2,173,000
Fleischmann Malting Co.	3,150,000
Minn. Linseed Oil Co.	2,081,000
Fruen Milling Co.	250,000
General Mills, Inc.	4,875,000
Gluek Brewing Co.	136,000
Theo. Hamm Brewing Co.	1,500,000
Hiawatha Grain Co.	50,000
Van Dusen Harrington Co.	925,000
Spencer Kellogg & Sons, Inc.	2,844,000
Kurth Malting Co.	2,250,000
Maney Bros. Mill & Elev. Co.	25,000
Northrup-King & Co.	160,000
Cargill, Inc.	1,350,000
Pillsbury Mills, Inc.	2,400,000
Ralston Purina Co.	280,000
Nutrena Mills, Inc.	255,000
Froedtert Grain & Malt. Co., Inc.	1,500,000
Kellogg Milling Co.	550,000
Total	31,754,000
Grand total	115,831,500

Toledo

Note: In bushels. Source: Toledo Board of Trade.

National Biscuit Co.	6,500,000
Cargill Toledo Elevator	3,139,000
East Side Iron Elevator	1,850,000
General Mills, Inc.	1,500,000
Anderson Elevator (Maumee)	4,000,000
Michigan Elevator Exchange	3,800,000
B & O Elevator	500,000
Anderson Elevator (Toledo)	500,000
Kasco Mills	300,000
Rice Elevator (Holland)	375,000
Rice Elevator (Toledo)	250,000
Continental Elevator	250,000
O & M Seed Co.	200,000
Spencer Kellogg & Sons	200,000
Toledo Soybean Products	100,000
Miscellaneous	750,000
Total	24,214,000

New Orleans

Note: In bushels. Source: New Orleans Board of Trade, Ltd.

Dock Board Elevator	5,000,000
New Basin—J. T. Gibbons	250,000
Total	5,250,000

DEFINITION OF OSNABURG

Osnaburg is a heavy, coarsely woven cloth made of short staple cotton fibers too short to be used in sheeting. Construction of goods is described in terms of the number of yards to the pound: 37" 4.00 yd. means 4 yd. of 37" material to the pound.

A DEPENDABLE GRAIN TEMPERATURE SYSTEM

ACCURATE—FAST—RELIABLE—NO MAINTENANCE COST

Be Sure with Zeleny

Our instrument requires no batteries or outside electricity and there are no complicated parts to get out of order. No maintenance costs. Accurate positive readings always.

The Zeleny System tells you the temperature of grain at every 5 foot level from the bottom to the top of your bins, preventing heating and spoilage. The saving on one or two turnings will pay for the installation.

For Information Without Obligation—Write

ZELENY THERMOMETER CO.

612 W. MONROE ST., CHICAGO 6, ILL.

Nashville

Note: In bushels. Source: Nashville Grain Exchange.

Continental South elevator	675,000
Continental West elevator	500,000
Continental steel elevator (formerly Gillette Grain Co.)	650,000
11 Elevators for miscellaneous storage and operated in connection with industries	728,400
Total	2,553,400

St. Louis

Note: In bushels. Source: St. Louis Merchants Exchange.

Cargill "R"—Cargill, Inc.	5,000,000
Cargill Q.	3,000,000
Continental Grain Co.—	
Missouri Pacific	3,800,000
Elevator "C"	700,000
Continental	2,200,000
Brooklyn	750,000
Cornell—Cornell Seed Co.	350,000
Burlington—Norris Grain Corp.	1,750,000
Anheuser-Busch Brewing Assn.	1,500,000
Checkerboard "A"—Checkerboard Elevator Co.	1,500,000
Feed mills—Smaller storage (17)	2,560,500
Elam—Elam Grain Co.	2,500,000
	25,810,500

ST. LOUIS FLOUR MILL STORAGE

Valier & Spies Milling Corp.	2,050,000
Russell-Miller Milling Co. (Standard-Tilton Mig. Co., Alton, Ill.)	2,025,000
J. F. Imbs Milling Co. (Belleville, Ill.)	350,000
	4,425,000
Total	30,035,500

Wichita

Note: In bushels. Source: Wichita Board of Trade.

PUBLIC

C-G Grain Co.	11,000,000
Farmers Co-op. Commission	4,000,000
General Mills, Inc., Central Div.	1,750,000
Pillsbury Mills, Inc.	2,200,000
Public Terminal Elevator Co.	9,700,000
Wichita Terminal Elevator, Inc.	5,750,000
	34,400,000

PRIVATE

Consolidated Flour Mills Co.	765,000
General Mills	2,020,000
Kansas Milling Co.	3,125,000
Soy-Rich Products, Inc.	1,100,000
Wichita Flour Mills Co.	965,000
Miscellaneous storage	80,000
	8,055,000
Public storage	34,400,000
Private storage	8,055,000
Total storage	42,455,000

Portland, Oregon

Note: In tons. Source: Portland Grain Exchange.

Albers No. 1	5,000
Albers No. 2	2,000
Albers No. 3	3,000
Columbia Milling Co.	4,600
Crown Mills Dock	10,000
Crown Mills Elevator	20,000
Irving Dock	22,000
Kerr Gifford Dock & Elevator	17,000
Northwestern Dock and Elevator	20,000
Quaker Oats Dock & Elevator	39,000
Terminal No. 4 Elevator	60,000
Terminal No. 4 Dock	37,000
Terminal Flour Mills Co.	6,700
Total	246,300

St. Joseph

Note: In bushels. Source: St. Joseph Grain Exchange.

Commander-Larabee Milling Co.	1,750,000
Dannen Grain & Milling Co.	1,235,000
Hart-Bartlett-Sturtevant Grain Co.	2,500,000
Quaker Oats Co.	2,240,000
Pillsbury Mills, Inc.	950,000
Stratton-Theis Grain Co.	2,000,000
Feed mills and misc. storage	448,000
Total	11,123,000

Seattle

Note: In bushels. Source: Seattle Grain Exchange.

Hanford Street Elevator	6,500,000
Fisher Flouring Mills Co.	2,850,000
Novelty Mill Co.	80,000
Albers Bros. Milling Co.	750,000
Total	10,180,000

Philadelphia

Note: In bushels. Source: Commercial Exchange of Philadelphia.

Cargill	550,000
Girard Point	2,225,000
Port Richmond	2,500,000
Twentieth Street	235,000
Tidewater Elevator	145,000
Walton Bros.	100,000
Totals	5,755,000

Oklahoma Mills

Note: Elevator capacities in bushels. Source: The Northwestern Miller.

Town—	No. mills	At mill	Supplementary
Ada	1	100,000	.....
Altus	1	420,000	.....
Alva	1	600,000	2,172,000
Apache	1	25,000	.....
Ardmore	1	135,000	.....
Blackwell	1	625,000	.....
El Reno	2	1,624,000	570,000
Enid	1	2,500,000	.....
Hennessey	1	225,000	30,000
Okeene	1	300,000	365,000
Oklahoma City	1	500,000	440,000
Ponca City	1	500,000	.....
Shawnee	1	2,000,000	10,000
Stillwater	1	450,000	100,000
Yukon	1	1,000,000	4,500
	16	11,004,000	3,691,500

Omaha

Note: In bushels. Source: Omaha Grain Exchange.

Allied Mills, Inc.	500,000
Archer-Daniels-Midland Co.	1,750,000
Butler-Welsh Grain Co.—Milwaukee "A"	800,000
Cargill, Inc.	8,500,000
CarO-Green, Inc.	800,000
Continental Grain Co.	1,450,000
Farmers Union Coop. Elevator Fed.	1,100,000
Kansas Grain Co.	1,500,000
Kellogg Co.	110,000
Loveland Elevator Co.	450,000
Nebraska Consolidated Mills Co.	600,000
Nebraska-Iowa Grain Co.	1,200,000
Omaha Elevator Co.	2,500,000
Omaha Flour Mills Co.	925,000
Pillsbury Mills, Inc.	350,000
Rosenbaum Brothers	1,000,000
Scoular-Bishop Grain Co.	450,000
Updike Grain Corp. "D"	2,500,000
Westcentral Co-op. Grain Co. "A"	1,750,000
Total	28,235,000

Tacoma Grain Receipts

Note: By calendar years, in carlots. Source: Tacoma Merchants Exchange.

	Wheat	Corn	Oats	Rye	Barley
1954..	9,596	1,559	251	..	761
1953..	10,419	933	351	..	288
1952..	12,477	496	284	..	1,209
1951..	13,772	1,110	425	4	337
1950..	7,059	885	354	1	490
1949..	9,825	893	350	5	490
1948..	7,648	310	250	4	262
1947..	9,525	1,090	216	..	405
1946..	12,000	599	317	5	336
1945..	8,313	318	368	3	766
1944..	8,244	325	318	16	487
1943..	8,455	337	416	19	896
1942..	6,593	520	243	45	431
1941..	9,081	551	227	4	358
1940..	9,042	647	194	1	265
1939..	10,287	498	211	2	290
1938..	9,016	450	240	10	225
1937..	6,193	144	260	13	84
1936..	7,559	36	194	122	46
1935..	9,368	40	191	4	113
1934..	8,875	294	84	3	139
1933..	7,580	299	126	4	142

Winnipeg

Note: In bushels. Source: Board of Grain Commissioners for Canada.

WINNIPEG

Ogilvie Flour Mills Co., Ltd.—Two mills	575,000
Canada Malting Co., Ltd.—Private terminal	1,345,500
Laing Bros., Ltd.—Private country	10,000
The Sherwin Williams Co. of Canada, Limited—Mill	75,000
Federal Grain, Ltd.—Two country elevators	134,000
Soo Line Mills, Ltd.—Country elevator	91,000
Steele, Briggs Seeds, Ltd.—Mill.	5,000
Red River Grain Co., Ltd.—Country elevator	95,000
Economy Grain & Feed Co.—Country elevator	20,000
Total	2,400,500

TRANSCONA

Dominion Malting Co., Ltd.—Private terminal	1,800,000

NORTH TRANSCONA

Eastern Terminal Elevator Co., Ltd.—Semi-public terminal	1,000,000

ST. BONIFACE

Ogilvie Flour Mills Co. Ltd.—Country elevator	140,000
K. A. Powell (Canada) Limited	70,000
Purity Flour Mills, Ltd.—Mill	1,050,000
Red River Grain Co., Ltd.—country elevator	285,000
McCabe Grain Co., Ltd.—Two country elevators	135,000
St. Boniface Grain & Feed Co., Ltd.—Country elevator	192,000
Central Grain Co.—Country elevator	132,000
Searle Grain Co., Ltd.—Country elevator	100,000
Manitoba Pool Elevators—Country elevator	25,000
*Soubry Grain & Feed Co., Ltd.	40,000
Dominion Grain & Feed Co.—Private country	13,000
Total	2,182,000
Grand total	7,382,500

*Not licensed.

Seattle Grain Receipts

Note: By calendar years, in carlots. Source: Seattle Grain Exchange.

	Wheat	Oats	Barley	Corn	Rye
1954..	12,432	421	1,623	697	...
1953..	7,949	439	281	548	...
1952..	8,933	503	773	610	3
1951..	13,247	342	813	832	5
1950..	13,382	694	749	751	3
1949..	15,385	629	539	965	17
1948..	11,700	494	809	497	29
1947..	14,095	749	582	1,108	9
1946..	13,397	572	283	641	17
1945..	11,137	743	895	639	27
1944..	8,478	1,319	421	700	100
1943..	10,836	986	982	505	49
1942..	7,772	598	605	681	69
1941..	8,582	486	940	461	73
1940..	7,255	456	244	722	26
1939..	8,516	533	185	667	7
1938..	8,556	622	160	498	35
1937..	8,485	100	195	9	161
1936..	6,063	26	763	139	29
1935..	6,482	338	118	18	23
1934..	9,162	1,190	159	476	49
1933..	8,857	425	204	432	30

Tacoma

Note: In bushels. Source: Tacoma Merchants' Exchange.

General Mills, Inc., Sperry Div.	1,000,000
Port of Tacoma	2,000,000
Total	3,000,000

New York

Note: In bushels. Source: The Northwestern Miller.

New York State Canal Grain Elevator (Port of N. Y. Authority)	2,000,000
West Shore, Weehawken	2,000,000
Lehigh Valley R. R.	450,000
Total	4,450,000

Grain Exchange Officers

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The Chicago Board of Trade was organized March 13, 1848. The first quarters were in a small room over a flour store on South Water Street. The first president of the organization was Thomas Dyer. There were 82 members.

In 1849 the Illinois legislature passed a law for the establishment of boards of trade and chambers of commerce. In 1848 the Chicago Board of Trade was incorporated.

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U.S. Grain Standards for Corn

United States grain standards for corn, effective Jan. 20, 1937 (revised October, 1940) as promulgated by the Department of Agriculture:

Corn shall be any grain which consists of 50% or more of shelled corn of the dent or flint varieties, and may contain not more than 10% of other grains for which standards have been established under the provisions of the United States Grain Standards Act. (The specifications of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug and Cosmetic Act.)

Classes.—Corn shall be divided into three classes, as follows: class I, yellow corn; class II, white corn, and class III, mixed corn.

YELLOW CORN (CLASS I)

This class shall include yellow corn, and may include not more than 5% of corn of other colors. A slight tinge of red on kernels of corn otherwise yellow shall not affect their classification as yellow corn.

WHITE CORN (CLASS II)

This class shall include white corn, and may include not more than 2% of corn of other colors. A slight tinge of light straw color or of pink on kernels of corn otherwise white shall not affect their classification as white corn.

MIXED CORN (CLASS III)

This class shall consist of corn of various colors that does not meet the color requirements for either of the classes yellow corn or white corn. White-capped yellow kernels shall be classified as mixed corn.

GRADES

Corn shall be graded and designated according to the respective grade requirements of the numerical grades and sample grade of its appropriate class, and according to the special grades when applicable.

FLINT CORN

Definition.—Flint corn shall be corn of any class which consists of 95% or more of corn of any of the flint varieties.

Grades.—Flint corn shall be graded and designated according to the grade requirements of the standards applicable to such corn if it were not flint corn, and the word "flint" shall be added to, and made a part of, the grade designation, immediately following the words yellow corn, or white corn or mixed corn, as the case may be.

FLINT AND DENT CORN

Definition.—Flint and dent corn shall be corn of any class which consists of a mixture of the flint and dent varieties and which contains more than 5%, but less than 95%, of corn of any of the flint varieties.

Grades.—Flint and dent corn shall be graded and designated according to the grade requirements of the standards applicable to such corn if it were not flint and dent corn, and the words "flint and dent" shall be added to, and made a part of, the grade designation, immediately following the words yellow corn, or white corn, or mixed corn, as the case may be.

WEEVILY CORN

Definition.—Weevily corn shall be corn that is infested with live weevils or other insects injurious to stored grain.

Grades.—Weevily corn shall be graded and designated according to the grade requirements of the standards applicable to such corn if it were not weevily, and there shall be added to, and made a part of, the grade designation, the word "Weevily."

DEFINITIONS

Basis of Grade Determinations.—Each determination of class, variety, damage, and heat damage, shall be upon the basis of the grain after the removal of the cracked corn and foreign material. All other determinations shall be upon the basis of the grain as a whole.

Percentages.—Percentages, except in the case of moisture, shall be percentages ascertained by weight.

Percentage of Moisture.—Percentage of moisture shall be that ascertained by the water oven and the method of use thereof described in Service and Regulatory Announcements No. 147, of the Agricultural Marketing Service of the United States Department of Agriculture, or ascertained by any device and method which give equivalent results in the determination of moisture.

Test Weight per Bushel.—Test weight per bushel shall be the weight per Winchester bushel as determined by the testing apparatus and the method of use thereof described in Bulletin No. 1065, dated May 18, 1922, issued by the United States Department of Agriculture, or as determined by any device and method which give equivalent results in the determination of test weight per bushel.

Cracked Corn and Foreign Material.—Cracked corn and foreign material shall include kernels and pieces of kernels of corn and all matter other than corn which will pass through a No. 12 sieve, and all matter other than corn remaining on such sieve after screening.

No. 12 Sieve.—A metal sieve perforated with round holes 12/64 inch in diameter.

Other Grains.—Other grains shall include wheat, rye, oats, grain sorghums, barley, hull-less barley, flaxseed, emmer, spelt, einkorn, Polish wheat, poulard wheat, cultivated buckwheat, sweet corn, popcorn and soybeans.

Damaged Kernels.—Damaged kernels shall be kernels and pieces of kernels of corn which are heat damaged, sprouted, frosted, badly ground damaged, badly weather damaged, or otherwise materially damaged.

Heat - Damaged Kernels.—Heat - damaged kernels shall be kernels and pieces of kernels of corn which have been materially discolored and damaged by external heat or as a result of heating caused by fermentation.

Buckwheat

Three cultivated species of buckwheat have been recognized, only the first two of which are grown in the U.S.: (1) Common or Japanese buckwheat having large kernels with sharp edges and slightly concave sides; (2) tartary buckwheat having small kernels with rounded sides; (3) notch-seed buckwheat, which somewhat resembles common buckwheat except that the edges or angles of the hull extend into wide rounded wings, thereby giving it a wider width. This latter is cultivated in India and China. No standards or grades for marketing purposes have been established by the U.S. government for this cereal grain.

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U. S. Grain Standards for Wheat

CLASS I—HARD RED SPRING WHEAT

Grade requirements for (a) dark northern spring, (b) northern spring, (c) red spring.

	Grade No.					
	†*1 heavy	†1	†2	3	4	5
Minimum test weight per bu, lbs	60	58	57	55	53	50
Maximum limits of—						
Damaged kernels (wheat and other grains)—Total, %	2	2	4	7	10	15
Heat-damaged, %	0.1	0.1	0.2	0.5	1.0	3.0
Foreign material—Total, %	1	1	2	3	5	7
Matter except other grains, %	0.5	0.5	1.0	2.0	3.0	5.0
Wheats of other classes—Total, %	5	5	10	10	10	10
Durum and/or red durum, %	2	2	3	5	10	10

Sample Grade.—Sample grade shall include wheat of the subclass dark northern spring, or northern spring, or red spring, which does not come within the requirements of any of the grades from No. 1 heavy to No. 5, inclusive; or which contains more than 16% of moisture; or which contains inseparable stones and/or cinders; or which is musty, or sour, or heating, or hot; or which has any commercially objectionable foreign odor except of smut or garlic; or which contains a quantity of smut so great that any one or more of the grade requirements cannot be applied accurately; or which is otherwise of distinctly low quality.

*Applies to each of the subclasses dark northern spring, northern spring and red spring.

†The wheat in grades No. 1 heavy and No. 1 of this class may contain not more than 7%, and the wheat in grade No. 2 of this class may contain not more than 10%, of shrunken and/or broken kernels of grain and other matter that will pass through a 20-gage metal sieve with slotted perforations 0.064 inch wide by ¾ inch long.

CLASS II—DURUM WHEAT, AND CLASS III, RED DURUM WHEAT

Grade requirements for the subclasses (a) hard amber durum, (b) amber durum, and (c) durum, of the class durum wheat, and for the class red durum wheat.

	Grade No.				
	‡1	‡2	‡3	4	5
Minimum test weight per bu, lbs	60	58	56	54	51
Maximum limits of—					
Damaged kernels (wheat and other grains)—Total, %	2	4	7	10	15
Heat damaged, %	0.1	0.2	0.5	1.0	3.0
Foreign material—Total, %	1	2	3	5	7
Matter except other grains, %	0.5	1.0	2.0	3.0	5.0
Wheats of other classes—Total, %	†5	10	10	10	10
Soft red winter, white and red durum, singly or combined*, %	3	5	10	10	10

Sample Grade.—Sample grade shall include wheat of the subclass hard amber durum, or amber durum, or durum, or wheat of the class red durum wheat, which does not come within the requirements of any of the grades from No. 1 to No. 5, inclusive; or which contains more than 16% moisture; or which contains inseparable stones and/or cinders; or which is musty, or sour, or heating, or hot; or which has any commercially objectionable foreign odor except of smut or garlic; or which contains a quantity of smut so great that any one or more of the grade requirements cannot be applied accurately; or which is otherwise of distinctly low quality.

*These specifications do not apply to the class red durum wheat, or to the subclass durum. †No. 1 red durum may contain 10% of wheats of other classes.

‡The wheat in grades No. 1 and No. 2 of each of these classes may contain not more than either (a) 7% of shrunken and/or broken kernels of grain and other matter that will pass through a 20-gage metal sieve with slotted perforations 0.064 inch wide by ¾ inch long, or (b) 10% of all such material that will pass through said sieve together with broken kernels of grain of any size which remain on said sieve; and the wheat in grade No. 3 of each of these classes may contain not more than either (a) 10% of shrunken and/or broken kernels of grain and other matter that will pass through said sieve, or (b) 15% of all such material that will pass through said sieve together with the broken kernels of grain of any size which remain on said sieve.

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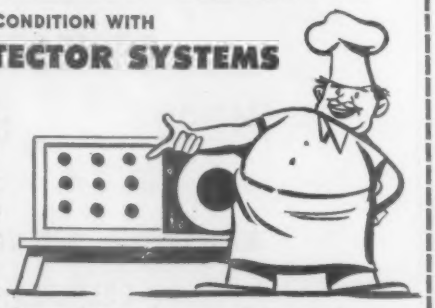

HOT SPOT DETECTOR, INC.

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United States grain standards for wheat, effective Oct. 1, 1937, as promulgated by the Department of Agriculture:

Wheat.—Wheat shall be any grain which, before the removal of dockage, consists of 50% or more of wheat and not more than 10% of other grains for which standards have been established under the provisions of the United States Grain Standards Act, and which, after the removal of dockage, contains not more than 50% of broken kernels of grain of any size. The term wheat in these standards shall not include emmer, spelt, einkorn, Polish wheat and poulard wheat.

(The specifications of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug and Cosmetic Act.)

Classes—Wheat shall be divided into seven classes, as follows: Class I, hard red spring wheat; Class II, durum wheat; Class III, red durum wheat; Class IV, hard red winter wheat; Class V, soft red winter wheat; Class VI, white wheat; and Class VII, mixed wheat.

Grades.—Wheat shall be graded and designated according to the respective grade requirements of the numerical grades and sample grade of its appropriate class or subclass, and according to the special grades when applicable.

HARD RED SPRING WHEAT (CLASS I)

This class shall include all varieties of hard red spring wheat, and may include not more than 10% of wheats of other classes. This class shall be divided into three subclasses, as follows:

Subclass (A) Dark Northern Spring

This subclass shall include wheat of the class hard red spring wheat, consisting of 75% or more of dark, hard and vitreous kernels. This subclass shall not include more than 10% of wheat of the variety Humpback.

Subclass (B) Northern Spring

This subclass shall include wheat of the class hard red spring wheat, consisting of more than 25% but less than 75% of dark, hard and vitreous kernels. This subclass shall not include more than 10% of wheat of the variety Humpback.

Subclass (C) Red Spring

This subclass shall include wheat of the class hard red spring wheat, consisting of not more than 25% of dark, hard, and vitreous kernels. This subclass shall also include wheat of the class hard red spring wheat consisting of more than 10% of the variety Humpback.

DURUM WHEAT (CLASS II)

This class shall include all varieties of common durum wheat, and may include not more than 10% of wheats of other classes. This class shall be divided into three subclasses, as follows:

Subclass (A) Hard Amber Durum

This subclass shall include wheat of the class durum wheat, consisting of 75% or more of hard and vitreous kernels of amber color.

Subclass (B) Amber Durum

This subclass shall include wheat of the class durum wheat, consisting of 60% or more but less than 75% of hard and vitreous kernels of amber color.

Subclass (C) Durum

This subclass shall include wheat of the class durum wheat, consisting of less than 60% of hard and vitreous kernels of amber color.

RED DURUM WHEAT (CLASS III)

This class shall include all varieties of red durum wheat, and may include not more than 10% of wheats of other classes.

HARD RED WINTER WHEAT (CLASS IV)

This class shall include all varieties of hard red winter wheat, and may include not more than 10% of wheats of other classes. This class shall be divided into three subclasses, as follows:

Subclass (A) Dark Hard Winter

This subclass shall include wheat of the class hard red winter wheat consisting of 75% or more of dark, hard and vitreous kernels.

Subclass (B) Hard Winter

This subclass shall include wheat of the class hard red winter wheat consisting of more than 25% but less than 75% of dark, hard and vitreous kernels.

Subclass (C) Yellow Hard Winter

This subclass shall include wheat of the class hard red winter wheat consisting of not more than 25% of dark, hard and vitreous kernels.

SOFT RED WINTER WHEAT (CLASS V)

This class shall include all varieties of soft red winter wheat and may include not more than 10% of wheats of other classes. This class shall be divided into two subclasses, as follows:

Subclass (A) Red Winter

This subclass shall include wheat of the class soft red winter wheat consisting of both light and dark colored kernels. This subclass shall not include more than 10% of soft red winter wheat grown west of the Great Plains area of the United States.

Subclass (B) Western Red

This subclass shall include wheat of the class soft red winter wheat consisting of more than 10% of wheat of this class grown west of the Great Plains area of the United States.

WHITE WHEAT (CLASS VI)

This class shall include all varieties of white wheat, whether winter or spring grown, and may include not more than 10% of wheats of other classes. This class shall be divided into four subclasses, as follows:

Subclass (A) Hard White

This subclass shall include all wheat of the class white wheat consisting of 75% or more of hard (not soft and chalky) kernels. This subclass shall not include more than 10% of Sonora wheat or wheat of the white club varieties, either singly or in any combination.

Subclass (B) Soft White

This subclass shall include wheat of the class white wheat consisting of less than 75% of hard (not soft and chalky) kernels. This subclass shall not include more than 10% of Sonora wheat or wheat of the white club varieties, either singly or in any combination.

Subclass (C) White Club

This subclass shall include wheat of the class white wheat consisting of Sonora wheat or wheat of the white club varieties, either singly or in any combination. This subclass shall not include more than 10% of common white wheat other than Sonora, either singly or in any combination.

Subclass (D) Western White

This subclass shall include wheat of the class white wheat, which contains more than 10% of Sonora wheat or wheat of the white club varieties, either singly or in any combination, and which also contains more than 10% of common white wheat other than Sonora.

MIXED WHEAT (CLASS VII)

This class shall include all mixtures of wheat not provided for in the classes from 1 to VI, inclusive.

Grade Requirements and Designations.—Mixed wheat shall be graded according to the numerical and sample grade requirements of the class of wheat which predominates in the mixture, except that the grade specifications for the factor "wheats of other classes" and the grade specifications for "No. 1 heavy" in the standards for hard red spring wheat, shall be disregarded.

The grade designation for mixed wheat shall be stated as provided in paragraph (a), (b) or (c) of this section:

(a) Except as specified in paragraphs (b) and (c) of this section, the grade designation for mixed wheat shall include successively, in the order named, (1) the number of the grade or the words "sample grade," as the case may be, (2) the words "mixed wheat," and (3) the name and approximate percentage of each class of wheat which constitutes more than 10% of the mixture in the order of its predominance; but if only one class exceeds 10% of the mixture, the name and approximate percentage of that class shall be included in the grade designation, followed by the name and approximate percentage of at least one other class.

(b) Amber Mixed Durum.—Amber mixed durum shall be mixed wheat consisting of a mixture of durum and other wheats, which contains not more than a total of 15% of wheats other than common durum and which contains not less than 60% of durum kernels that are hard and vitreous and of amber color. Amber mixed durum may contain not more than 5% of red durum, white and soft red winter wheat, singly or combined.

The grade designation for amber mixed durum shall include successively, in the order named, (1) the number of the grade or the words "sample grade," as the case may

CLASS IV—HARD RED WINTER WHEAT

Grade requirements for (a) hard dark winter, (b) hard winter, (c) yellow hard winter.

	Grade No.				
	*1	*2	*3	4	5
Minimum test weight per bu, lbs	60	58	56	54	51
Maximum limits of—					
Damaged kernels (wheat and other grains)—Total, %	2	4	7	10	15
Heat damaged, %	0.1	0.2	0.5	1.0	3.0
Foreign material—Total, %	1	2	3	5	7
Matter except other grains, %	0.5	1.0	2.0	3.0	5.0
Wheats of other classes—Total, %	5	10	10	10	10
Durum and/or red durum, %	1	2	3	10	10

Sample Grade.—Sample grade shall include wheat of the subclass dark hard winter, or hard winter, or yellow hard winter, which does not come within the requirements of any of the grades from No. 1 to No. 5, inclusive; or which contains more than 15.5% of moisture; or which contains inseparable stones and/or cinders; or which is musty, or sour, or heating, or hot; or which has any commercially objectionable foreign odor except of smut or garlic; or which contains a quantity of smut so great that any one or more of the grade requirements cannot be applied accurately; or which is otherwise of distinctly low quality.

*The wheat in grades No. 1 and No. 2 of this class may contain not more than 7%, and the wheat in grade No. 3 of this class may contain not more than 10%, of shrunken and/or broken kernels of grain and other matter that will pass through a 20-gage metal sieve with slotted perforations 0.064 inch wide by ¾ inch long.

CLASS V—SOFT RED WINTER WHEAT

Grade requirements for (a) red winter, (b) western red.

	Grade No.				
	*1	*2	*3	4	5
Minimum test weight per bu, lbs	60	58	56	54	51
Maximum limits of—					
Damaged kernels (wheat and other grains)—Total, %	2	4	7	10	15
Heat damaged, %	0.1	0.2	0.5	1.0	3.0
Foreign material—Total, %	1	2	3	5	7
Matter except other grains, %	0.5	1.0	2.0	3.0	5.0
Wheats of other classes—Total, %	5	10	10	10	10
Durum and/or red durum, %	0.5	1.0	2.0	10.0	10.0

Sample Grade.—Sample grade shall include wheat of the subclass red winter, or western red, which does not come within the requirements of any of the grades from No. 1 to No. 5, inclusive; or which contains more than 15.5% of moisture; or which contains inseparable stones and/or cinders; or which is musty, or sour, or heating, or hot; or which has any commercially objectionable foreign odor except of smut or garlic; or which contains a quantity of smut so great that any one or more of the grade requirements cannot be applied accurately; or which is otherwise of distinctly low quality.

*The wheat in grades No. 1 and No. 2 of this class may contain not more than 7%, and the wheat in grade No. 3 of this class may contain not more than 10%, of shrunken and/or broken kernels of grain and other matter that will pass through a 20-gage metal sieve with slotted perforations 0.064 inch wide by ¾ inch long.

CLASS VI—WHITE WHEAT

Grade requirements for (a) hard white, (b) soft white, (c) white club, (d) western white.

	Grade No.				
	*1	*2	*3	4	5
Minimum test weight per bu, lbs	60	58	56	54	51
Maximum limits of—					
Damaged kernels (wheat and other grains)—Total, %	2	4	7	10	15
Heat damaged, %	0.1	0.2	0.5	1.0	3.0
Foreign material—Total, %	1	2	3	5	7
Matter except other grains, %	0.5	1.0	2.0	3.0	5.0
Wheats of other classes—Total, %	5	10	10	10	10
Durum and/or red durum, %	0.5	1.0	2.0	10.0	10.0

Sample Grade.—Sample grade shall include wheat of the subclass hard white, or soft white, or white club, or western white, which does not come within the requirements of any of the grades from No. 1 to No. 5, inclusive; or which contains more than 15.5% of moisture; or which contains inseparable stones and/or cinders; or which is musty, or sour, or heating, or hot; or which has any commercially objectionable foreign odor except of smut or garlic; or which contains a quantity of smut so great that any one or more of the grade requirements cannot be applied accurately; or which is otherwise of distinctly low quality.

*The wheat in grades No. 1 and No. 2 of this class may contain not more than 7%, and the wheat in grade No. 3 of this class may contain not more than 10%, of shrunken and/or broken kernels of grain and other matter that will pass through a 20-gage metal sieve with slotted perforation 0.064 inch wide by ¾ inch long.

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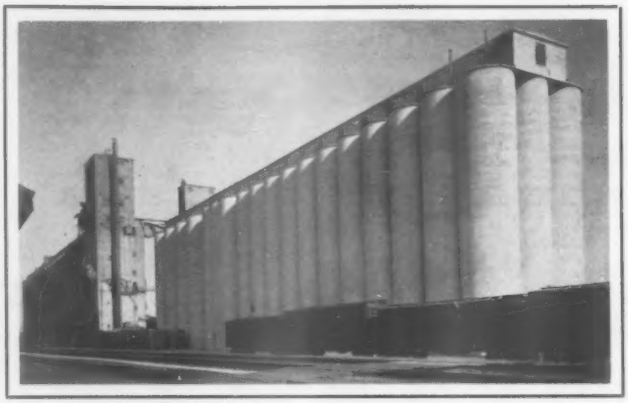

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Chicago Movement

Note: By route, 000's omitted. **Source: Chicago Board of Trade**

RECEIPTS

	Wheat bu.	Corn bu.	Oats bu.	Rye bu.	Barley bu.	S'yb'ns bu.	Total bu.	Flour sacks
By lake—								
From Toledo, Ohio	300	...	...	...	...	...	300	...
From Port Arthur, Ft. William, Can.	69	...	1,967	2,578	...	...	4,614	...
Total by lake	369	...	1,967	2,578	...	...	4,914	...
By Illinois waterways	2,567	20,612	4,036	32	...	5,205	32,452	...
By rail—								
Chicago & N. Western Ry.	767	13,218	2,736	14	5,516	2,398	24,649	2,382
Illinois Central R.R.	2,454	11,819	3,122	4	424	2,604	20,427	536
Chi., Rock Island & Pac. Ry.	723	7,573	1,579	6	348	891	11,120	520
Chicago, B. & Q. R.R.	3,118	6,910	2,027	26	632	902	13,615	4,120
Gulf Mobile & Ohio R.R.	1,379	1,801	633	24	16	626	4,449	1,392
Chi. & Eastern Ill. Ry	1,758	4,521	520	6	24	862	7,691	346
Chi., Mil., St. Paul & Pac. R.R.	1,664	10,146	1,995	247	3,654	2,345	20,051	8,394
Wabash Ry.	1,867	1,934	663	2	268	734	5,468	701
Ch. Gt. Western Ry.	1,575	3,899	788	132	1,172	841	8,407	1,468
Atch., Topeka & Santa Fe Ry.	312	961	451	...	...	175	1,899	2,278
Minn., St. P. & S. S. Marie Ry.	581	196	200	6	1,078	118	2,179	28
Elgin, Joliet & East. Ry.	16	63	130	...	...	7	216	...
Eastern & Southeastern Lines	5,209	12,483	1,244	18	14	2,428	21,396	528
Total by rail	21,423	75,524	16,058	485	13,146	14,931	141,567	22,693
Trucked in	2,744	5,784	159	12	...	3,794	12,493	...
Total receipts	27,103	101,920	22,220	3,107	13,146	23,930	191,426	22,693
Flour manufactured in city	...	...	...	...	...	...	...	3,386
In store and afloat in harbor Dec. 31, 1953	15,171	5,714	4,404	9,292	848	4,285	39,714	...

SHIPMENTS

	Wheat bu.	Corn bu.	Oats bu.	Rye bu.	Barley bu.	S'yb'ns bu.	Total bu.	Flour sacks
By lake—(U.S. Ports)—								
Buffalo, N.Y.	2,652	6,425	333	...	...	...	9,410	...
Erie, Pa.	548	...	...	...	...	...	548	...
Milwaukee, Wis.	...	115	...	...	...	...	115	...
Oswego, N.Y.	2,486	900	...	...	...	...	3,386	...
(Canadian Ports)								
Cardinal, Ont.	...	326	...	...	...	...	326	...
Collingswood, Ont.	...	546	...	...	...	...	546	...
Midland, Ont.	...	874	...	...	...	...	874	...
Montreal, Que.	...	1,685	...	...	...	...	1,685	...
Prescott, Ont.	...	577	...	...	...	...	577	...
Sarnia, Ont.	...	281	...	...	...	...	281	...
Toronto, Ont.	...	183	...	...	...	4,898	5,081	...
Walkerville, Ont.	...	877	...	...	...	...	877	...
Total by lake	5,686	12,789	333	...	...	4,898	23,706	...
By Illinois waterways	2,859	...	1,342	103	8	905	5,217	...
By rail—								
Chicago & N. Western Ry.	276	636	205	230	63	54	1,464	476
Illinois Central R.R.	1,166	3,572	763	390	251	1,124	7,266	886
Chi., R. I. & Pacific Ry.	589	110	129	84	11	2	925	72
Chicago, B. & Q. R.R.	29	2	...	...	...	...	31	121
Gulf, Mobile & Ohio R.R.	1,378	1,166	274	29	213	259	3,319	259
Chi. & Eastern Ill. R.R.	259	581	196	26	38	...	1,100	395
Chi., Mil., St. Paul & Pac. R.R.	14	63	123	8	12	4	224	125
Wabash Ry.	2,138	3,901	397	3	227	4,021	9,687	889
Chicago, Gt. Western Ry.	32	8	3	...	2	...	45	45
Atch., Topeka & Santa Fe Ry.	149	22	2	...	2	2	177	134
Minn., St. P. & S. S. Marie Ry.	...	4	...	...	2	...	6	8
Eastern & Southeastern Lines	7,532	17,955	14,031	2,926	850	3,586	46,880	3,056
Total by rail	13,562	28,020	16,123	3,696	1,671	8,052	71,124	6,466
Total shipments	22,107	40,809	17,798	3,799	1,679	13,855	100,047	6,466
In store and afloat in harbor Dec. 31, 1954	12,422	12,583	2,292	7,641	425	2,331	37,694	...
City consumption and unaccounted for	7,745	54,242	6,534	959	11,890	12,029	93,399	19,613
Grand totals	42,274	107,634	26,624	13,399	13,994	28,215	231,140	26,079

be, and (2) the words "amber mixed durum."

(c) Mixed Durum.—Mixed durum shall be mixed wheat consisting of a mixture of durum and other wheats, which contains not more than a total of 20% of wheats other than common durum. Mixed durum may contain not more than 5% of red durum wheat, and may contain not more than 5% of white and soft red winter wheat, singly or combined.

The grade designation for mixed durum shall include successively, in the order named, (1) the number of the grade or the words "sample grade," as the case may be, and (2) the words "mixed durum."

DOCKAGE

Dockage includes weed seeds, weed stems, chaff, straw, grain other than wheat, sand, dirt and any other foreign material, which can be removed readily from the wheat by the use of appropriate sieves and cleaning devices; also undeveloped, shriveled and small pieces of wheat kernels removed in properly separating the foreign material, and which cannot be recovered by properly rescreening or recleaning.

The quantity of dockage shall be calculated in terms of percentage based on the total weight of the grain including the dockage. The percentage of dockage so calculated, when equal to 1% or more, shall be stated in terms of whole per cent, and when less than 1% shall not be stated. A fraction of a per cent shall be disregarded. The word "dockage," together with the percentage thereof, shall be added to the grade designation.

Duluth Wheat Movement

Note: In bushels, 000's omitted. Source: Duluth Board of Trade.

RECEIPTS

	Spring	Winter	Durum	Totals
1954	70,278	6,378	779	77,435
1953	68,380	6,627	3,738	78,745
1952	91,171	5,011	7,272	103,454
1951	105,494	6,289	12,381	124,164
1950	64,345	5,768	6,810	76,923
1949	94,252	10,739	17,962	122,953
1948	94,710	5,470	12,325	112,505

SHIPMENTS

	Spring	Winter	Durum	Totals
1954	76,621	6,529	978	84,128
1953	61,693	5,006	5,463	72,162
1952	80,149	3,374	9,419	92,942
1951	111,817	7,469	12,880	132,166
1950	55,113	5,292	4,205	64,615
1949	92,163	11,119	13,606	116,888
1948	89,062	3,452	7,058	99,572

Chicago Lake Shipments

Note: In bushels, 000's omitted. Source: Chicago Board of Trade.

RECEIPTS

From—	Wheat	Corn	Oats	Rye
Toledo, Ohio	300	...	...	...
Ft. William-Pt. Arthur	69	...	1,967	2,578
Total, 1954	369	...	1,967	2,578
Total, 1953	388	...	4,011	10,907

SHIPMENTS

U. S. ports—	Wheat	Corn	Oats	Rye
Buffalo, N.Y.	2,652	6,425	333	...
Erie, Pa.	548	...	...	...
Milw'kee, Wis.	...	115	...	...
Oswego, N.Y.	2,486	900	...	...
Can. ports—				
Cardinal, Ont.	...	326	...	...
Collingswood, Ont.	...	546	...	...
Midland, Ont.	...	874	...	...
Montreal, Que.	...	1,685	...	...
Prescott, Ont.	...	577	...	...
Sarnia, Ont.	...	281	...	...
Toronto, Ont.	...	183	...	...
Walkerville, Ont.	...	877	...	...
Totals, 1954	5,686	12,789	333	...
Totals, 1953	1,850	9,520	...	...

Kansas City Feed Movement

Note: Bran and shorts, in tons. Source: Kansas City Board of Trade.

	Receipts	Shipments
1954	91,710	232,380
1953	75,570	230,670
1952	81,270	246,180
1951	74,370	289,230
1950	96,660	349,200
1949	97,560	336,420
1948	137,430	349,040
1947	139,260	392,730
1946	28,440	297,960
1945	26,910	389,460
1944	22,080	377,880
1943	69,120	414,900
1942	106,745	270,390
1941	109,025	303,375
1940	69,400	260,925
1939	68,725	301,150
1938	75,425	333,275
1937	79,900	319,500
1936	74,000	277,375
1935	41,975	265,906

MANUFACTURED FEED (TONS)

	Shipments
1954	475,950
1953	488,460
1952	517,230
1951	443,280
1950	446,040
1949	411,630
1948	310,710
1947	373,380
1946	426,690
1945	440,190
1944	443,520
1943	430,230
1942	426,850
1941	250,700
1940	219,200
1939	204,875
1938	153,350
1937	204,200
1936	274,050

St. Louis Grain Receipts

Note: By rail, water and trucks, in bushels, 000's omitted. Source: St. Louis Merchants Exchange.

	Wheat	Corn	Oats	Rye	Barley
1954	37,906	36,314	6,659	40	2,206
1953	37,790	53,356	8,264	30	1,732
1952	34,999	49,440	9,846	52	1,590
1951	33,415	37,081	10,594	17	1,898
1950	26,752	41,565	8,111	77	1,508
1949	30,399	38,542	9,141	41	1,354
1948	37,407	28,604	6,738	48	2,134
1947	27,744	36,667	6,144	12	1,701
1946	18,374	25,325	10,697	90	2,209
1945	21,639	29,563	9,469	97	3,068
1944	29,978	17,825	4,506	322	2,719
1943	19,651	25,959	8,748	331	3,902
1942	11,880	26,042	3,240	886	1,902
1941	15,035	13,491	2,784	149	2,155
1940	19,501	14,840	3 466	44	1,801
1939	26,753	17,189	3,010	28	1,859
1938	21,153	30,851	4,483	85	1,855
1937	22,396	22,579	5,513	137	2,171
1936	14,916	20,082	7,256	176	2,329
1935	12,007	10,346	4,909	181	1,426

Canadian Reports

Following are dates of field crop reports scheduled for release by the Agriculture Division of the Dominion Bureau of Statistics during 1954. All reports issued at 3 p.m. e.s.t., or e.d.s.t. when in force, at Ottawa.

Feb. 25—Revised estimate of value of 1953 field crops; preliminary estimate of value of 1954 field crops.
March 16—Intended acreage of principal field crops.
April 15—Stocks of grain at March 31.
May 4—Telegraphic crop report—Canada.
May 11—Telegraphic crop report—prairie provinces.
May 25—Telegraphic crop report—Canada.
June 1—Telegraphic crop report—prairie provinces.
June 10—Process of seeding; winter killing and spring condition of winter wheat, fall rye, tame hay and pasture; rates of seeding.
June 15—Telegraphic crop report—Canada.
June 29—Telegraphic crop report—Canada.
July 6—Telegraphic crop report—prairie provinces.
July 13—Telegraphic Crop report—Canada.
July 20—Telegraphic crop report—prairie provinces.
Aug. 3—Telegraphic crop report—Canada.
Aug. 5—Preliminary estimate of crop and summerfallow acreages.
Aug. 12—Stocks of grain at July 31.
Aug. 17—Telegraphic crop report—Canada.
Aug. 30—August forecast of production of principal field crops.
Sept. 7—Telegraphic crop report—Canada.
Sept. 21—Telegraphic crop report—Canada.
Sept. 30—September forecast of production of principal field crops.
October—Progress of harvesting in the prairie provinces.
November—November estimate of production of principal field crops. Area and condition of fall-sown crops.

Definitions and Standards of Identity for Corn Products

Regulations fixing and establishing definitions and standards of identity for corn products became effective Aug. 11, 1947. These regulations were published in the Federal Register May 13, 1947, as 12 F. R. 3110-12, under Title 21, Food and Drugs, **Chapter I, Food and Drug Administration, Federal Security Agency** (Docket No. FDC-447), Part 15. Copies of the regulation may be obtained from the Food and Drug Administration, Washington, D. C.

Standards of identity are fixed in the order for the following products: white corn meal, yellow corn meal, bolted white corn meal, bolted yellow corn meal, degerminated white corn meal, degermed white corn meal, degerminated yellow corn meal, degermed yellow corn meal, self-rising white corn meal, self-rising yellow corn meal, white corn flour, yellow corn flour, grits, corn grits, hominy grits, yellow grits, yellow corn grits, yellow hominy grits, quick grits, quick cooking grits, enriched corn meal and enriched corn grits.

With the establishment of the standards for enriched corn products the minimum and maximum quantities of vitamins and iron enrichment required are uniformly established for all the states.

Texas Mills

Note: Elevator capacities in bushels. Source: The Northwestern Miller.

Town—	No. mills	At mill	Supplementary
Amarillo	1	1,200,000	.....
Clifton	1	600,000	.....
Dallas	3	1,250,000	3,000,000
Denton	2	1,075,000	25,000
El Paso	1	250,000	.....
Ft. Worth	2	7,150,000	5,000,000
Gainesville	1	600,000	.....
Graham	1	400,000	.....
Greenville	1	1,350,000	.....
Houston	1	1,500,000	400,000
Jacksboro	1	175,000	.....
New Braunfels	1	500,000	.....
Paris	1	450,000	.....
Plainview	1	1,000,000	16,000,000
San Antonio	1	500,000	.....
Seguin	1	500,000	.....
Sherman	2	2,558,000	.....
Wichita Falls	1	1,759,000	.....
Winters	1	60,000	.....
	23	23,377,000	24,425,000

Chicago Grain, Flour and Feed Movement

Note: By calendar years, 000's omitted. Source: Chicago Board of Trade

RECEIPTS

	Flour, sacks	Bushels: Wheat	Corn	Oats	Rye	Barley	Flaxseed	Tons: Millfeed	Oil cake
1954	22,693	27,103	101,920	22,220	3,107	13,106	....	...	..
1953	22,378	24,873	103,176	20,849	11,040	14,399	1,052	185	9
1952	22,289	28,187	127,159	36,254	4,380	13,279	1,286	221	9
1951	23,057	17,034	130,308	31,102	5,584	13,821	1,923	235	20
1950	24,446	22,110	119,993	30,467	5,338	14,555	2,388	229	39
1949	25,908	36,963	113,946	27,802	9,492	15,633	1,273	264	32
1948	24,685	26,616	111,912	30,635	4,515	16,792	2,239	210	29
1947	27,597	44,113	152,142	36,956	1,109	19,070	944	274	15
1946	27,001	21,217	116,092	43,345	2,145	17,349	761	372	..
1945	29,841	37,797	101,938	33,052	5,887	19,734	1,069	505	16
1944	25,364	67,473	88,780	17,435	4,012	20,919	1,102	436	21

SHIPMENTS

	Flour, sacks	Bushels: Wheat	Corn	Oats	Rye	Barley	Flaxseed	Tons: Millfeed	Oil cake
1954	6,466	22,107	40,809	17,798	3,799	1,679	....	...	..
1953	5,889	17,578	45,173	23,282	3,907	1,856	18	298	1
1952	6,820	14,473	61,902	30,566	3,314	2,015	15	337	1
1951	6,304	13,209	56,424	17,143	8,823	1,715	24	319	2
1950	7,655	13,845	55,919	22,190	4,050	2,299	239	418	2
1949	9,732	26,761	61,800	26,036	3,560	3,297	366	518	2
1948	10,055	24,034	49,996	22,068	2,119	3,085	62	411	2
1947	11,174	34,986	83,103	25,224	1,408	4,080	214	470	..
1946	10,868	19,029	59,583	42,670	2,876	4,602	352	518	..
1945	5,108	26,530	50,366	29,633	10,588	7,918	203	700	4
1944	9,310	59,021	42,150	14,097	7,045	6,015	295	688	4

PROTECT YOURSELF

HEDGE

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SOYBEAN OIL
SOYBEAN MEAL

Does the market go down after you have bought your supplies, or go up just before you planned to book ahead? You can guard against these inventory losses or being caught short by HEDGING in the . . .

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Partner in charge of Commodity Department

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Carryover Stocks of Canadian Grains

Note: In Canada and U.S. at close of crop years, in bushels. Source: Dominion Bureau of Statistics.

	Wheat	Oats	Barley	Flaxseed	Rye
1954*	587,487,000	123,790,000	144,278,000	2,478,000	18,788,000
1953	369,185,000	144,409,000	111,667,000	3,939,000	16,191,000
1952	217,177,826	108,358,284	79,503,741	2,463,918	8,094,397
1951	189,202,667	96,177,487	53,496,371	1,203,778	3,298,681
1950	112,199,543	44,904,579	20,355,035	4,467,771	6,431,086
1949	102,411,241	60,506,604	29,669,143	10,692,153	11,917,893
1948	77,710,410	47,891,059	31,449,460	3,371,226	903,746
1947	87,366,657	69,950,055	29,113,331	799,929	788,172
1946	73,600,209	77,491,528	29,937,099	1,649,218	765,149
1945	258,072,830	98,255,162	28,919,181	3,932,111	2,023,933
1944	356,531,079	108,543,320	45,873,970	3,649,135	5,576,061
1943	594,626,019	149,324,136	69,253,707	3,740,121	15,277,088
1942	423,753,337	28,607,185	10,821,462	1,027,040	3,353,203
1941	480,129,311	41,563,379	10,642,658	620,313	4,919,122
1940	300,473,465	46,931,023	12,653,875	583,307	5,351,661
1939	192,910,853	48,837,155	12,804,186	118,822	2,921,434
1938	24,536,858	19,498,653	6,630,934	219,027	1,000,576
1937	37,048,839	18,246,043	4,796,213	464,967	403,864
1936	127,362,698	40,379,860	10,234,224	269,287	3,685,252
1935	213,852,118	24,470,703	6,018,787	312,979	3,168,715
1934	202,902,177	31,060,497	11,092,030	471,296	4,050,207
1933	217,657,066	42,044,758	11,338,322	1,179,575	6,006,488

*Preliminary.

Omaha Grain Movement

Note: By calendar years, in bushels, 000's omitted. Source: Omaha Grain Exchange.

RECEIPTS

	Wheat	Corn	Oats	Rye	Barley
1954..	24,755	30,523	7,413	228	220
1953..	36,984	30,706	8,009	358	490
1952..	38,652	37,703	9,953	936	770
1951..	35,802	51,531	7,847	1,316	1,079
1950..	33,019	39,719	4,797	1,195	724
1949..	38,955	38,301	7,234	1,223	1,966
1948..	46,770	25,889	7,441	1,695	1,668
1947..	45,888	50,407	8,211	1,624	3,776
1946..	37,412	32,103	9,933	2,280	3,645
1945..	33,572	53,603	12,674	3,049	5,144
1944..	28,692	31,672	7,773	1,811	4,404
1943..	37,366	38,809	12,234	3,180	8,490
1942..	18,358	24,849	7,268	1,234	5,113
1941..	22,336	12,891	2,682	843	2,495
1940..	14,983	19,297	1,885	533	260
1939..	21,567	11,075	4,156	700	653
1938..	23,698	15,352	4,367	1,132	830
1937..	22,618	14,061	7,760	931	1,221
1936..	20,815	16,141	6,244	627	1,622

SHIPMENTS

	Wheat	Corn	Oats	Rye	Barley
1954..	17,892	24,809	6,573	229	213
1953..	24,173	28,141	7,583	371	474
1952..	35,802	51,530	7,846	1,315	1,079
1951..	29,119	48,860	5,601	1,123	888
1950..	26,496	35,068	4,519	1,191	786
1949..	33,068	29,537	6,920	1,003	1,837
1948..	27,580	20,041	7,386	1,941	1,667
1947..	33,875	51,104	7,502	1,330	3,887
1946..	34,108	33,526	12,290	2,217	3,679
1945..	22,551	50,908	10,113	2,746	5,518
1944..	17,758	33,491	8,270	1,611	3,474
1943..	37,912	42,152	10,492	2,840	8,143
1942..	8,732	26,829	6,851	1,408	4,933
1941..	9,703	17,263	2,113	610	2,211
1940..	7,026	9,770	1,881	469	274
1939..	9,441	12,573	4,027	663	877
1938..	14,306	12,775	4,973	1,070	691
1937..	13,650	7,450	8,910	914	869
1936..	12,557	13,663	8,939	758	2,302

RECEIPTS

1954—	Wheat	Corn	Oats	Rye	Barl'y
January ..	2,162	3,125	373	23	22
February ..	1,306	3,010	258	17	10
March	1,089	2,829	283	11	22
April	1,503	2,485	316	2	46
May	1,313	2,180	304	2	18
June	1,129	1,858	230	5	6
July	3,190	2,395	1,117	65	16
August ...	2,691	2,754	2,446	28	30
September.	2,019	1,580	501	31	4
October ...	1,134	1,457	531	20	26
November .	1,066	3,855	501	11	4
December .	1,154	2,996	554	4	16
Total ...	24,756	30,524	7,414	228	220

SHIPMENTS

1954—	Wheat	Corn	Oats	Rye	Barl'y
January ..	1,373	1,973	723	28	14
February .	922	2,179	334	13	16
March	1,042	2,884	425	13	27
April	1,531	2,660	262	4	42
May	1,031	2,097	246	2	32
June	841	1,884	206	4	14
July	2,920	2,094	292	82	10
August ...	2,029	2,361	1,020	42	32
September .	1,748	1,558	564	31	2
October ...	1,495	818	829	25	14
November .	1,636	1,999	944	11	4
December .	1,423	2,302	729	5	6
Total ...	17,893	24,809	6,573	229	213

Grain Crops in Canada

Note: By crop years, in bushels and acres, 000's omitted. Source: Dominion Bureau of Statistics.

BUSHELS

	Wheat	Barley	Buckwheat	Corn
1954*..	298,913	176,216	2,505	23,059
1953...	613,962	262,065	3,210	20,854
1952...	687,922	291,379	2,680	19,722
1951...	552,657	245,218	2,916	15,990
1950...	461,664	171,393	3,977	13,839
1949...	367,406	120,408	3,570	13,850
1948...	393,342	154,643	3,911	12,417
1947...	336,788	141,373	5,187	6,883
1946...	413,725	148,887	4,881	10,661
1945...	305,912	157,757	5,246	10,356
1944...	436,535	194,712	5,553	11,700
1943...	283,666	315,562	6,243	7,775
1942...	556,134	359,156	5,207	14,372
1941...	311,835	110,566	4,788	13,363
1940...	540,190	104,256	6,692	6,956
1939...	520,623	103,147	6,845	8,097
1938...	360,010	102,242	7,079	7,690

	Flaxseed	Oats	Rye	Peas
1954*...	11,291	312,979	14,172	897
1953....	9,912	406,960	28,775	1,210
1952....	12,961	466,805	24,557	888
1951....	9,897	488,191	17,647	745
1950....	4,686	419,930	13,333	812
1949....	2,284	317,916	10,011	936
1948....	17,353	357,703	25,348	1,469
1947....	12,241	278,670	13,217	1,788
1946....	6,403	371,069	8,811	2,333
1945....	7,593	381,596	5,888	1,363
1944....	9,668	499,643	8,526	1,269
1943....	17,911	482,022	7,143	1,562
1942....	14,993	651,954	24,742	1,692
1941....	6,566	305,575	11,659	1,319
1940....	3,049	380,536	13,994	1,356
1939....	2,044	384,407	15,307	1,307
1938....	1,259	371,382	10,988	1,365

ACRES

	Wheat	Barley	Buckwheat	Corn
1954*...	24,277	7,358	121	418
1953....	25,513	8,911	139	362
1952....	25,995	8,477	123	339
1951....	25,254	7,839	124	314
1950....	27,021	6,625	155	306
1949....	27,540	6,017	170	272
1948....	24,106	6,493	186	252
1947....	24,261	7,465	290	176
1946....	24,076	6,259	218	252
1945....	23,414	7,350	261	237
1944....	23,284	7,291	256	270
1943....	16,849	8,397	286	230
1942....	21,586	6,972	239	358
1941....	21,882	5,304	238	320
1940....	28,726	4,842	326	186
1939....	26,756	4,347	335	183

	Flaxseed	Oats	Rye	Peas
1954*....	1,206	10,161	350	50
1953.....	972	9,830	1,494	60
1952.....	1,206	11,062	1,257	43
1951.....	1,158	11,896	1,126	37
1950.....	560	11,575	1,168	49
1949.....	323	11,389	1,182	58
1948.....	1,935	11,201	2,103	82
1947.....	1,571	11,049	1,156	128
1946.....	841	12,074	715	127
1945.....	1,069	14,393	487	93
1944.....	1,323	14,315	648	84
1943.....	2,948	15,407	576	102
1942.....	1,492	13,782	1,336	90
1941.....	996	13,365	958	80
1940.....	397	13,296	1,035	82
1939.....	307	12,789	1,102	76

*Preliminary.

Kansas City Grain Movement

Note: In bushels, 000's omitted. Source: Kansas City Board of Trade.

RECEIPTS

	Wheat	Corn	Oats	Rye	Barley
1954..	98,832	27,950	32,396	172	777
1953..	107,559	30,970	4,024	249	611
1952..	129,099	35,861	5,822	297	1,491
1951..	117,928	36,400	4,922	510	1,425
1950..	117,803	31,618	5,096	164	1,148
1949..	111,731	32,983	6,490	357	1,492
1948..	156,631	24,675	5,944	541	1,328
1947..	188,258	38,255	6,588	366	2,955
1946..	126,338	26,970	9,576	402	3,966
1945..	121,443	48,105	8,860	565	7,280
1944..	121,334	51,297	4,124	1,060	7,373
1943..	127,406	35,268	8,480	2,253	5,939
1942..	73,820	38,610	5,018	611	4,893
1941..	84,781	10,696	2,792	381	3,074
1940..	69,918	16,771	1,216	113	338
1939..	80,549	11,229	2,118	417	394
1938..	99,621	12,311	3,068	507	339
1937..	96,083	12,243	3,396	476	565
1936..	63,744	17,481	3,248	213	998
1935..	49,701	18,054	3,806	321	747
1934..	44,058	25,236	1,998	177	314
1933..	49,115	18,831	2,658	210	502
1932..	80,224	7,631	1,604	134	598
1931..	125,032	22,044	3,110	133	1,057
1930..	95,968	30,022	5,594	468	2,864

SHIPMENTS

	Wheat	Corn	Oats	Rye	Barley
1954..	63,122	13,594	1,968	61	336
1953..	63,981	17,892	2,490	97	272
1952..	75,648	16,326	4,008	99	876
1951..	87,364	21,226	3,508	93	870
1950..	70,196	18,246	3,346	132	795
1949..	72,790	15,088	4,710	144	1,163
1948..	106,830	11,892	4,092	312	6,046
1947..	109,373	25,423	5,098	261	2,949
1946..	99,673	14,887	8,288	325	3,526
1945..	88,583	30,298	6,306	582	7,187
1944..	67,376	18,772	3,280	786	5,726
1943..	107,355	21,802	7,044	1,146	4,376
1942..	43,630	24,309	4,108	470	4,032
1941..	47,191	7,269	1,514	276	2,069
1940..	33,975	4,724	574	47	66
1939..	47,139	6,167	2,012	86	186
1938..	51,190	7,280	2,144	195	78
1937..	53,121	3,734	2,914	114	165
1936..	32,352	9,192	3,294	72	378
1935..	26,556	15,945	1,692	119	322
1934..	31,344	19,149	1,442	186	326
1933..	26,931	5,226	1,004	107	333
1932..	28,532	1,293	588	111	374
1931..	84,359	16,815	1,584	166	1,131
1930..	62,919	32,087	3,980	273	1,982

Receipts of kafir corn, milo maize and feterita in the years since records were kept, in bushels:

1954.....	10,352,600	1944.....	12,859,000
1953.....	2,779,000	1943.....	6,850,550
1952.....	6,175,750	1942.....	1,762,600
1951.....	28,999,250	1941.....	2,662,800
1950.....	15,174,250	1940.....	1,090,600
1949.....	5,118,750	1939.....	931,000
1948.....	9,150,750	1938.....	1,002,400
1947.....	7,273,000	1937.....	800,800
1946.....	4,826,500	1936.....	1,255,800
1945.....	31,374,750	1935.....	635,600

Shipments of kafir corn, milo maize and feterita in the years since records were kept, in bushels:

1954.....	4,366,000	1944.....	11,669,000
1953.....	2,490,250	1943.....	4,823,500
1952.....	14,857,500	1942.....	1,972,500
1951.....	16,068,500	1941.....	1,532,400
1950.....	13,016,500	1940.....	864,000
1949.....	5,171,250	1939.....	825,600
1948.....	6,749,750	1938.....	936,000
1947.....	5,741,750	1937.....	554,400
1946.....	4,077,500	1936.....	652,800
1945.....	20,499,500	1935.....	471,600

SOYBEANS (1953)

Repts.	Ship.
4,027,300	3,775,700

Soybean Prices at Chicago

Source: Chicago Board of Trade. High and low for No. 2 yellow:

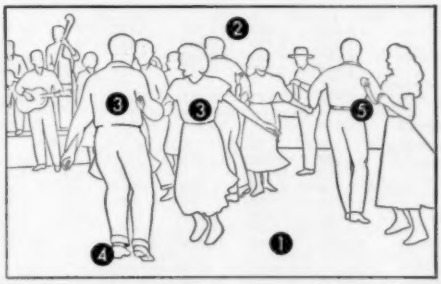
	1953	1954
January	$2.83¾ @2.82½	$..... @ .....
February ...	2.82 @2.82	..... @ .....
March	..... @	..... @ .....
April	2.92¼ @2.92¼	..... @ .....
May	..... @2.76½	..... @ .....
June	..... @	..... @ .....
July	2.56¾ @2.56¾	..... @ .....
August	..... @	..... @ .....
September ..	..... @	2.63 @2.76½
October	2.63 @2.48½	2.66 @2.90
November ..	2.98½ @2.92½	2.72 @2.92
December ..	..... @	2.78 @2.82¼
Range	$2.98½ @2.48½	$2.63 @2.92

They're Having A "Hoe-Down" On Your Flaxseed!

Whether these happy folk are doing an "elbow swing"—or an "allemand right," we can't say for sure. But we're 100% certain that flaxseed—one of your farm products—is playing a big part in the fun. That's because flaxseed is processed into linseed oil—seen everywhere they're dancing—in the form of that linoleum floor!

This is just one example of what we at Cargill call Creative Processing . . . a constant effort to change things you raise into products millions of people want. Many basic grain crops like flaxseed, corn and soybeans have better markets today than ever before, because Creative Processing transforms them into plastics, printing ink, paint, cooking oil—hundreds of widely-used products, including the new improved feeds you use on your own farm.

Well over 75% of all farm products are processed before being eaten or used. And, Cargill Creative Processing helps increase America's appetite for these crops with 3 research laboratories, 18 control labs and a 400-acre research farm—all staffed by scientists and technicians who are ever seeking new and better ways to "eat up" the things you grow. (Some results of their work can be seen at right.)



Look closely—see how many of your farm products you can identify in the above photo. For example, that shiny (1) linoleum flooring was manufactured from linseed oil (creatively processed by Cargill's Oil Division). The (2) paint on the walls is another product made from linseed oil and your flaxseed. Chances are, too, that laundry starch (processed from corn) had much to do with the clean, neat appearance of those (3) shirts and blouses. (4) Shoes made from cowhide or other farm-produced leather. Even a (5) plastic belt, processed from your soybeans by Cargill's Soybean Oil Division.

CARGILL, Creative Processors of Farm Products

Processing Plants and Grain Marketing Offices in Minneapolis and 45 other cities

PRODUCTS OF Cargill CREATIVE PROCESSING

This is how Cargill is telling the importance of processors to farmer-readers of papers like The Farmer, Wallaces' Farmer, Dakota Farmer, Montana Farmer-Stockman, etc.

CROPS: PRODUCTION AND ACREAGE

World Wheat Production, Yield and Acreage

Note: 000's omitted **Source: USDA**

Continent and country	Acreage† Average 1945-49	Acreage† 1952	Acreage† 1953	Acreage† 1954¶	Yield per acre‡ Ave. 1945-49	Production Ave. 1945-49	Production 1952	Production 1953	Production 1954¶
	1,000 acres				bu.	1,000 bu.			
N. America:									
Canada	24,717	25,995	25,513	24,267	14.8	366,349	387,922	613,962	298,913
Mexico	1,244	1,466	1,623	1,804	12.5	15,522	17,450	24,650	30,300
U. S.	71,024	70,926	67,608	53,726	16.9	1,202,396	1,298,957	1,168,536	959,258
Est. total‖	97,040	98,450	94,810	79,870	...	1,585,000	2,005,000	1,808,000	1,289,000
Europe:									
Austria	528	570	563	573	20.5	10,800	17,950	19,250	16,700
Belgium**	371	411	412	445	39.7	14,733	20,760	20,250	20,800
Denmark	175	183	173	208	49.7	8,704	11,060	10,430	10,290
Finland	420	380	355	430	21.3	8,966	9,400	9,500	11,500
France	10,354	11,000	10,600	11,075	23.0	238,200	310,000	330,000	386,500
W. Germany	2,283	2,921	2,832	2,706	29.5	67,420	120,200	116,100	103,000
Greece	1,917	2,382	2,551	2,540	12.9	24,750	38,580	52,000	45,000
Ireland	561	280	380	....	31.6	17,746	9,800	15,400	15,900
Italy	11,742	12,000	12,100	12,100	19.3	227,200	295,000	332,000	285,000
Luxembourg	32	46	44	48	25.0	800	1,510	1,350	1,430
Netherlands	262	202	161	272	42.4	11,100	12,020	9,500	15,220
Norway	91	51	43	47	29.3	2,670	1,460	1,430	1,480
Portugal	1,665	1,750	1,784	1,820	8.5	14,190	21,270	24,180	25,980
Spain	9,640	10,625	10,605	10,660	12.1	116,700	170,000	125,000	180,000
Sweden	749	821	959	1,070	31.0	23,222	28,740	36,340	37,370
Switzerland	223	226	211	222	35.0	7,800	9,300	8,110	9,370
U. K.	2,148	2,030	2,217	2,452	36.1	77,505	86,130	99,460	99,340
Est. total‖	47,590	50,890	51,030	51,890	...	948,000	1,238,000	1,305,000	1,335,000
Other Europe, est. total††	18,530	20,160	20,230	20,560	...	317,000	402,000	420,000	395,000
Est. total, all Europe‖	66,120	71,050	71,260	72,450	...	1,265,000	1,640,000	1,725,000	1,730,000
U.S.S.R. (Europe & Asia)	82,200	....	....	....	10.8	885,000	.....	.....	.....
Asia:									
Iran	....	....	....	....	...	70,791	75,000	82,500	77,000
Iraq	1,593	....	....	....	9.1	14,424	18,400	26,000	.....
Lebanon	166	161	166	166	12.8	2,133	1,800	1,980	2,060
Syria	1,957	2,220	2,347	2,720	9.6	18,762	26,000	29,400	29,500
Turkey	9,436	13,400	15,790	15,800	13.3	125,089	239,000	301,500	200,000
China	54,447	56,000	...	....	15.9	864,280	800,000	.....	.....
Manchuria	....	2,650	....	....	...	.....	30,000	.....	.....
India‡‡	23,312	23,235	24,285	26,100	9.1	212,336	215,340	275,630	290,900
Pakistan‡‡	10,370	10,220	9,510	10,650	12.5	130,018	114,240	105,000	137,500
Japan	1,655	1,779	1,693	1,660	20.7	34,325	56,480	50,500	55,520
Est. total‖	111,750	118,160	126,670	133,160	...	1,525,000	1,605,000	1,725,000	1,735,000
Africa:									
Algeria	3,566	4,389	4,292	4,497	8.4	29,900	43,790	40,440	44,830
Egypt	1,618	1,455	1,858	1,863	26.3	42,633	41,000	56,800	60,000
Fr. Morocco	2,621	3,530	3,526	3,813	8.3	21,792	29,400	40,903	45,560
Tunisia	1,907	2,856	2,612	3,074	6.5	12,320	25,240	21,300	22,410
Union of South Africa***	2,416	3,127	2,974	....	6.2	15,067	20,290	19,500	.....
Est. total‖	13,740	16,940	16,900	17,920	...	134,000	173,000	193,000	205,000
S. America:									
Argentina	11,493	13,790	12,345	....	16.9	193,740	280,500	227,800	260,000
Brazil	876	....	....	....	12.9	11,283	20,000	25,000	.....
Chile	1,980	1,925	1,880	1,900	18.0	35,628	40,400	34,340	.....
Peru	280	420	425	420	13.6	3,798	5,900	6,200	6,100
Uruguay	1,060	1,240	1,850	....	12.4	13,124	17,000	30,000	28,000
Est. total‖	16,320	19,440	18,840	20,070	...	263,000	370,000	330,000	360,000
Oceania:									
Australia	12,662	10,100	10,721	10,722	14.0	177,742	199,000	199,000	165,000
New Zealand	140	127	120	....	37.4	5,241	4,525	4,600	.....
Total	12,802	10,227	10,841	10,847	...	182,983	203,525	203,600	169,500
Est. world total‖	399,970	448,270	458,320	457,820	...	5,840,000	7,400,000	7,260,000	6,790,000

Prepared or estimated on the basis of official statistics of foreign governments, reports of U.S. Foreign Service officers, results of office research or other information. Harvests of **Northern Hemisphere countries** are combined with those of the **Southern Hemisphere** which immediately follow; thus, the crop harvested in the Northern Hemisphere in 1954 is combined with preliminary forecasts for the Southern Hemisphere harvests which began late in 1954 and end early in 1955. †Figures refer to harvested areas as far as possible. ‡Yield per acre calculated from acreage and production data shown, except for incomplete periods. ¶Revised estimates for Northern Hemisphere countries, for Southern Hemisphere, preliminary forecasts based largely on acreage and weather conditions to date. ‖Estimated totals which in the case of production are rounded to millions, include allowances for any missing data for countries shown and for other producing countries not shown. **Data for individual years shown are not strictly comparable with averages, since recent official estimates exclude data for farms of less than 2.5 acres. ††Comprises Albania, Bulgaria, Czechoslovakia, Eastern Germany, Hungary, Poland and Rumania. ‡‡Figures for the period shown are not strictly comparable since figures for 1952-54 include allowances for non-reporting areas, which were not included in earlier figures shown, but were included in estimated total for Asia. ***Production on European holdings only.

Canadian Inspection Charges

Fees chargeable under the Canada Grain Act for the inspection and weighing of grain:

Western Division — Inspection: Carload lots, $2 a car; cargoes, $2 1,000 bu. Weighing: Carload lots, $1 a car; cargoes, $1 1,000 bu.

Eastern Division — Inspection: Carload lots, $2 a car; cargoes, $2 1,000 bu. Weighing: Carload lots, 75¢ a car. Truck load lots, 30¢ a truck. Cargoes, $1 an hour for each employee engaged in such work.

U.S. Winter Wheat Forecasts

Note: Estimated on date specified but not including revisions made after the year of harvest. In bushels, 000,000's omitted. Source: USDA

	April	May	June	July	Aug.	Dec.
1954	678	707	740	758	776	791
1953	714	730	770	821	878	878
1952	799	986	1,060	1,048	1,062	1,062
1951	726	682	705	706	650	645
1950	764	689	710	721	741	751
1949	1,020	1,021	1,037	932	895	902
1948	861	845	877	952	981	990
1947	973	1,026	1,093	1,092	1,096	1,068
1946	831	743	775	857	880	874
1945	863	835	797	834	837	823
1944	602	662	714	793	786	764
1943	559	515	502	519	534	530
1942	625	647	647	675	698	703
1941	616	653	698	682	684	671
1940	426	460	489	524	556	589
1939	549	544	523	538	551	563
1938	726	754	760	715	688	687
1937	656	654	649	664	688	685
1936	493	464	482	512	519	519
1935	435	432	441	458	432	465
1934	492	461	400	394	401	406
1933	334	337	341	336	340	351
1932	458	441	411	432	442	462
1931	644	652	649	713	775	787
1930	...	525	532	558	597	600
1929	...	595	622	582	568	578
1928	...	486	512	544	579	579
1927	...	594	587	578	552	553
1926	...	549	543	568	626	627
1925	474	445	407	404	416	402
1924	549	553	509	543	589	592
1923	572	578	581	586	568	572

U.S. Spring Wheat Forecasts

Note: Estimates on date specified but not including revisions made after the year of harvest. In bushels, 000,000's omitted. Source: USDA

	June	July	Aug.	Sept.	Oct.	Dec.
1954	260	230	202	186	183	179
1953	363	353	324	291	285	291
1952	200	235	235	236	236	236
1951	348	363	347	348	342	342
1950	234	236	256	271	270	276
1949	300	257	227	234	231	246
1948	315	290	303	304	302	298
1947	317	343	332	313	311	299
1946	251	233	280	287	290	281
1945	287	295	309	315	313	300
1944	321	335	346	329	323	315
1943	229	272	301	301	302	307
1942	221	229	257	284	286	278
1941	213	241	266	273	276	275
1940	...	205	205	228	236	228
1939	...	179	181	185	189	192
1938	...	252	268	252	252	244
1937	...	219	202	198	199	189
1936	...	126	114	111	108	107
1935	...	273	176	163	167	161
1934	...	89	90	93	97	91
1933	...	160	159	166	174	176
1932	...	305	281	273	270	264
1931	...	156	118	111	109	113
1930	...	250	223	240	242	257
1929	...	251	205	217	224	234
1928	...	257	313	323	325	323
1927	...	274	298	308	314	319
1926	...	200	213	212	213	205
1925	254	276	263	284	283	275
1924	184	197	225	247	268	272
1923	236	235	225	221	214	225

U.S. Durum Wheat Crop

Note: Production in Minnesota, North and South Dakota and Montana. 000's omitted. Source: USDA

	Acres	Yield per acre, bu.	Production, bu.
1954	1,327	4.2	5,557
1953	1,865	7.0	12,967
1952	2,174	10.3	22,493
1951	2,518	13.8	34,762
1950	2,829	13.2	37,212
1949	3,525	11.0	38,817
1948	3,187	14.0	44,680
1947	2,948	15.0	43,983
1946	2,453	14.6	35,836
1945	2,004	16.4	32,840
1944	2,057	14.4	29,666
1943	2,078	16.1	33,505
1942	2,109	19.6	41,236
1941	2,524	16.1	40,658
1940	3,029	10.7	32,294
1939	2,965	11.0	32,486

U.S. Crops and Value

Note: By calendar years, 000's omitted. **Source: USDA**

	Acres	Crop Bu. acre	Crop Total bu.	Value bu.
Rye—				
1954†...	1,718	13.8	23,688	$1.130
1953....	1,384	13.1	18,163	1.300
1952....	1,383	11.6	16,046	1.730
1951....	1,710	12.5	21,301	1.530
1950....	1,744	12.2	21,257	1.320
1949....	1,554	11.6	18,102	1.210
1948....	2,058	12.6	25,886	1.460
1947....	1,991	12.8	25,497	2.260
1946....	1,597	11.6	18,487	1.920
1945....	1,850	12.8	23,708	1.350
1944....	2,132	10.6	22,525	1.090
1943....	2,652	10.8	28,680	.982
1942....	3,792	14.0	52,929	.603
1941....	3,573	12.3	43,878	.542
1940....	3,204	12.4	39,725	.420
1939....	3,822	10.1	38,562	.439
1938....	4,087	13.7	55,984	.338
1937....	3,825	12.8	48,862	.686
1936....	2,694	9.0	24,239	.812
1935....	4,066	14.0	56,938	.398
1934....	1,921	8.5	16,285	.720
1933....	2,405	8.6	20,573	.627
1932....	3,350	11.7	39,099	.280
Buckwheat—				
1954†...	149	18.2	2,719	$0.949
1953....	175	18.2	3,193	.914
1952.....	161	19.9	3,205	1.410
1951.....	201	16.6	3,340	1.400
1950.....	253	17.5	4,439	1.110
1949.....	269	18.4	4,956	.953
1948.....	330	18.4	6,085	1.120
1947.....	505	14.2	7,177	1.900
1946.....	383	17.8	6,812	1.480
1945	401	16.1	6,467	1.190
1944.....	508	17.6	8,956	1.010
1943.....	505	17.5	8,830	1.260
1942.....	375	17.7	6,636	.846
1941.....	337	17.9	6,038	.674
1940.....	388	16.7	6,476	.538
1939.....	370	15.5	5,736	.622
1938.....	448	15.1	6,763	.539
1937.....	421	16.2	6,808	.667
1936.....	379	17.0	6,440	.851
1935.....	505	16.8	8,488	.548
1934.....	475	18.9	8,994	.584
1933.....	460	17.0	7,816	.558
1932.....	454	14.8	6,727	.434
Flaxseed—				
1954†...	5,663	7.3	41,543	$3.080
1953....	4,456	8.2	36,668	3.620
1952....	3,303	9.1	30,174	3.720
1951....	3,904	8.9	34,696	3.710
1950....	4,090	9.8	40,236	3.340
1949....	5,048	8.5	42,976	3.630
1948....	4,973	11.0	54,803	5.710
1947....	4,129	9.8	40,618	6,150
1946....	2,432	9.3	22,588	4.040
1945....	3,785	9.1	34,557	2.890
1944....	2,610	8.3	21,665	2.910
1943....	5,691	8.8	50,009	2.830
1942....	4,408	9.3	40,976	2.360
1941....	3,266	9.8	32,133	1.790
1940....	3,182	9.7	30,924	1.416
1939....	2,171	9.0	19,606	1.460
1938....	905	8.9	8,032	1.592
1937....	927	7.6	7,070	1.866
1936....	1,125	4.7	5,331	1.897
1935....	2,126	7.0	14,914	1.420
1934....	1,002	5.7	5,719	1.700
1933....	1,341	5.1	6,904	1.630
1932....	1,988	5.8	11,511	.880

†Preliminary.

U.S. Grain Exchanges

The following is a list of the grain exchanges in the United States: Amarillo Grain Exchange, Baltimore Chamber of Commerce, Boston Grain & Flour Exchange, Buffalo Corn Exchange, Cairo Board of Trade, Chicago Board of Trade, Cincinnati Board of Trade, Inc., Denver Grain Exchange Assn., Des Moines Grain Exchange, Detroit Board of Trade, Duluth Board of Trade, Enid Board of Trade, Fort Worth Grain & Cotton Exchange, Galveston Cotton Exchange and Board of Trade, Hutchinson Board of Trade Assn., Indianapolis Board of Trade, Kansas City Board of Trade, Los Angeles Grain Exchange, Louisville Board of Trade, Memphis Merchants Exchange, Milwaukee Grain Exchange, Minneapolis Grain Exchange, New Orleans Board of Trade, Ltd., New York Produce Exchange, Ogden Grain Exchange, Omaha Grain Exchange, Peoria Board of Trade, Commercial Exchange of Philadelphia, Portland (Oregon) Grain Exchange, Richmond Grain Exchange, St. Joseph Grain Exchange, St. Louis Merchants Exchange, Salina Board of Trade, San Francisco Grain Exchange, Seattle Grain Exchange, Sioux City Grain Exchange, Toledo Board of Trade, Topeka Board of Trade, Wichita Board of Trade.

World Barley Production, Yield and Acreage

Note: 000's omitted **Source: USDA**

Continent and country	Acreage† Average 1945-49	Acreage† 1952	Acreage† 1953	Acreage† 1954¶	Yield per acre‡ ave. 1945-49	Production Ave. 1945-49	Production 1952	Production 1953	Production 1954¶
	1,000 acres				bu.	1,000 bu.			
N. America:									
Canada	6,717	8,477	8,911	7,856	21.5	144,688	291,379	262,065	211,605
Mexico	457	571	581	....	13.2	6,032	7,560	7,800	.....
U. S.	10,713	8,244	8,534	12,885	25.5	273,306	226,014	241,015	369,050
Est. total§ .	17,890	17,290	18,030	21,320	...	424,000	525,000	511,000	589,000
Europe:									
Austria	293	371	373	373	24.3	7,127	12,500	15,050	13,800
Belgium** ..	198	232	228	199	47.4	9,385	12,520	13,360	10,000
Denmark	1,079	1,491	1,543	1,495	59.6	64,345	97,830	100,130	92,000
Finland	346	380	440	435	24.6	8,500	10,800	15,000	13,800
France	2,019	2,656	2,973	3,059	26.0	52,500	79,420	102,830	111,120
W. Germany .	1,288	1,747	1,948	1,791	34.0	43,740	80,710	95,140	85,660
Greece	453	531	530	516	16.2	7,359	9,800	11,870	.....
Ireland	147	225	188	170	45.8	6,739	11,620	10,500	8,000
Italy	603	626	615	615	15.7	9,467	12,250	14,330	12,950
Netherlands .	139	172	255	155	51.4	7,147	11,000	14,340	9,090
Norway	99	158	201	216	40.5	4,014	6,790	9,500	10,200
Portugal	322	387	392	397	11.9	3,835	5,500	5,500	5,400
Spain	3,979	3,954	3,947	3,979	21.0	83,528	102,420	73,030	96,450
Sweden	226	377	471	413	36.5	8,252	15,100	21,700	16,730
Switzerland ..	66	59	61	59	41.6	2,745	2,820	2,880	2,760
U. K.	2,120	2,281	2,226	2,054	43.3	91,895	108,920	109,240	97,770
Est. total§ .	14,370	16,560	17,430	16,920	...	428,000	597,000	634,000	615,000
Other Europe, est. total††	7,830	8,420	8,240	8,140	...	172,000	208,000	196,000	190,000
All Europe, est. total§ .	22,200	24,980	25,670	25,060	...	600,000	805,000	830,000	805,000
U.S.S.R. (Europe & Asia)	19,800	....	....	....	13.7	272,000	.....	.....	.....
Asia:									
Iran	1,687	1,977	1,977	1,975	22.0	37,157	38,600	37,700	37,850
Iraq	1,901	2,200	2,400	....	15.5	29,502	29,850	50,000	.....
Lebanon	52	30	30	....	22.4	1,165	690	690	.....
Syria	867	770	930	1,225	12.8	11,135	10,500	13,800	16,000
Turkey	4,235	5,713	6,019	6,175	16.2	68,675	146,470	160,750	115,000
China	15,521	15,800	....	....	20.8	322,244	320,000	.....	.....
Manchuria ...	250	....	....	....	22.2	5,550	.....	.....	.....
India‡‡	6,900	7,800	8,100	8,190	15.4	106,255	100,000	107,500	127,000
Pakistan‡‡ ..	547	532	521	563	12.7	6,922	6,400	5,200	.....
Japan	2,137	2,301	2,261	2,500	26.2	56,046	89,190	86,900	106,450
Est. total§ .	37,720	40,260	42,080	42,400	...	692,000	787,000	843,000	828,000
Africa:									
Algeria	2,227	3,300	3,086	3,200	12.6	28,120	48,000	33,200	37,200
Egypt	260	140	120	127	33.1	8,605	5,500	5,510	6,060
Fr. Morocco .	3,728	5,100	4,900	4,450	12.7	47,322	56,000	82,950	72,500
Tunisia	1,257	1,829	1,400	1,600	6.3	7,901	16,100	8,300	7,500
Un. of S. Africa	105	....	....	....	16.6	1,740	2,600	.....	.....
Est. total§ .	8,880	12,470	11,620	11,450	...	107,000	150,000	155,000	150,000
S. America:									
Argentina ...	1,693	2,075	1,572	....	21.0	35,576	53,950	38,100	.....
Chile	132	165	165	....	30.5	4,030	6,500	5,000	.....
Uruguay	65	62	105	....	13.0	846	1,020	1,800	.....
Est. total§ .	2,660	3,320	2,900	2,980	...	53,000	80,000	65,000	65,000
Oceania:									
Australia	868	1,370	1,700	....	19.4	16,854	36,510	38,260	.....
New Zealand.	56	55	58	....	39.7	2,223	2,230	2,600	.....
Total	924	1,425	1,758	1,705	...	19,077	38,740	40,860	37,500
Est. world total§	110,070	121,240	122,560	127,420	...	2,167,000	2,735,000	2,755,000	2,825,000

Prepared or estimated on the basis of official statistics of foreign governments, reports of U.S. Foreign Service officers, results of office research, or other information. Harvests of Northern Hemisphere countries are combined with those of the Southern Hemisphere which immediately follow; thus, the crop harvested in the Northern Hemisphere in 1954 is combined with preliminary forecasts for the Southern Hemisphere harvests which will begin late in 1954 and end early in 1955. †Figures refer to harvested areas as far as possible. ‡Yield per acre calculated from acreage and production data shown, except for incomplete periods. ¶Preliminary estimates for Northern Hemisphere countries; for Southern Hemisphere, preliminary forecasts based largely on acreage and weather conditions to date. §Estimated totals, which in the case of production, are rounded to millions, include allowances for any missing data for countries shown and for other producing countries not shown. **Data for individual years shown are not strictly comparable with averages shown since recent estimates exclude data for farms of less than 2.5 acres. ††Comprises Albania, Bulgaria, Czechoslovakia, Eastern Germany, Hungary, Poland and Rumania. ‡‡Figures for the period shown are not strictly comparable since figures for 1952-54 include allowances for non-reporting areas, which were excluded from earlier figures shown, but were included in estimated total for Asia.

Definition of Bushel

The volume of a bushel measure in the United States (called Winchester bushel) is 2,150.42 cubic inches; this is equivalent to a cube each side of which is about 12.9 inches.

The volume of a bushel measure in England (called imperial bushel) is about 3.1 per cent greater than the bushel measure used in the United States; it contains 2,218.192 cubic inches which is equivalent to a cube each side of which measures slightly more than 13 inches.

Transactions in wheat are now made almost wholly on the basis of bushels, not of a certain volume but of a definite weight, 60 lbs.

A legalized bushel weight has been established by the United States government (mainly for customs purposes) for a few agricultural products, as follows: barley, 48 lbs; castor beans, shelled, 50; buckwheat, 48; corn, shelled, 56; corn meal, 48; flaxseed (linseed), 56; oats, 32; peas, 60; potatoes, 60; rye, 56; wheat, 60.

The bushel weights adopted by the Bureau of Statistics of the Department of Agriculture are as follows:

Barley, 48 lbs; beans (dry), 60; buckwheat, 48; clover seed, 60; corn, shelled, 56; corn on cob, 70; flaxseed, 56; oats, 32; peaches, 48; potatoes, 60; rye, 56; timothy seed, 45; wheat, 60.

World Oats Production, Yield and Acreage

Note: 000's omitted **Source: USDA**

Continent and country	Acreage† Average 1945-49	Acreage† 1952	Acreage† 1953	Acreage† 1954¶	Yield per acre‡ ave. 1945-49	Production Ave. 1945-49	Production 1952	Production 1953	Production 1954¶
	1,000 acres				bu.	1,000 bu.			
N. America:									
Canada**	12,021	11,062	9,830	10,161	28.4	341,612	466,805	406,960	365,437
Mexico	108	203	205	....	19.9	2,152	3,520	3,800	.....
U. S.	40,184	38,422	39,358	41,980	34.3	1,376,527	1,260,127	1,216,416	1,509,386
Est. total§	52,310	49,690	49,390	52,340	...	1,720,000	1,730,000	1,627,000	1,879,000
Europe:									
Austria	534	545	544	519	32.6	17,424	27,300	28,800	23,200
Belgium††	518	409	392	419	73.1	37,888	31,900	31,220	35,000
Denmark	822	....	601	618	82.5	67,820	66,140	56,700	54,910
Finland	931	1,225	1,240	1,200	37.9	35,275	58,000	66,000	61,000
France	6,110	5,622	5,608	5,300	36.3	221,821	231,130	252,340	239,570
W. Germany	2,892	2,748	2,606	2,496	50.0	144,500	180,270	175,970	168,100
Greece	312	377	368	351	19.4	6,058	8,040	11,520	.....
Ireland	819	640	600	560	58.7	48,040	41,000	40,500	37,000
Italy	1,138	1,147	1,139	1,144	26.8	30,513	35,000	41,900	38,240
Luxembourg	54	51	55	47	43.9	2,370	2,750	2,910	2,620
Netherlands	378	376	386	350	63.8	24,125	33,660	34,940	30,730
Norway	195	198	179	173	57.1	11,137	11,100	12,340	11,380
Portugal	914	750	770	770	9.0	8,270	9,580	9,000	8,650
Spain	1,566	1,483	1,490	1,495	22.0	34,390	37,700	30,520	35,830
Sweden	1,300	1,274	1,214	1,182	44.6	58,000	56,110	65,660	59,100
Switzerland	86	65	74	72	64.7	5,568	5,180	6,060	5,200
U. K.	3,443	2,882	2,840	2,600	59.5	204,692	194,040	197,470	163,590
Est. total§	22,960	21,380	20,980	20,170	...	980,000	1,047,000	1,086,000	1,002,000
Other Europe, est. total‡‡	9,290	9,580	9,480	9,550	...	313,000	355,000	357,000	353,000
Est. total, all Europe§	32,250	30,960	30,460	29,720	...	1,293,000	1,402,000	1,443,000	1,355,000
U.S.S.R. (Europe & Asia)	35,100	....	....	....	20.5	720,000	.....	.....	.....
Asia:									
Syria	22	....	....	....	26.1	574	.....	.....	.....
Turkey	642	880	788	815	21.8	14,000	27,900	28,450	20,670
China	2,365	2,400	....	....	21.7	51,335	56,000	.....	.....
Japan	227	203	215	....	28.3	6,431	9,500	10,060	.....
Est. total§	3,930	4,480	4,570	4,580	...	84,000	111,000	113,000	105,000
Africa:									
Algeria	420	448	445	445	18.3	7,694	9,810	3,000	8,300
Fr. Morocco	95	141	....	....	25.0	2,376	4,230	.....	.....
Tunisia	70	52	57	....	13.7	958	830	790	.....
Un. of S. Africa	756	....	....	....	11.1	8,415	.....	.....	.....
Est. total§	1,370	1,360	1,350	1,380	...	20,000	24,000	22,000	23,000
S. America:									
Argentina	1,709	2,380	1,819	....	28.0	47,782	87,450	66,140	.....
Chile	216	247	250	....	24.6	5,310	7,300	6,550	.....
Uruguay	172	145	185	....	16.5	2,840	2,700	3,500	.....
Est. total§	2,130	2,820	2,300	2,380	...	57,000	98,000	77,000	76,000
Oceania:									
Australia	1,860	2,764	2,271	....	17.9	33,249	54,530	43,750	.....
New Zealand	61	50	25	....	60.1	3,669	2,980	1,500	.....
Total	1,921	2,814	2,296	2,040	...	36,918	57,510	45,250	38,200
Est. world total§	129,010	133,620	130,370	133,440	...	3,930,000	4,400,000	4,155,000	4,400,000

Prepared or estimated on the basis of official statistics of foreign governments, reports of U.S. Foreign Service officers, results of office research or other information. Harvests of Northern Hemisphere countries are combined with those of the Southern Hemisphere which immediately follow; thus, the crop harvested in the Northern Hemisphere in 1954 is combined with preliminary forecasts for the Southern Hemisphere harvests which will begin late in 1954 and end early in 1955. †Figures refer to harvested areas as far as possible. ‡Yield per acre calculated from acreage and production data shown, except for incomplete periods. ¶Preliminary estimates for Northern Hemisphere countries; for Southern Hemisphere, preliminary forecasts based largely on acreage and weather conditions to date. **Production and yield reported in bushels of 34 lb. §Estimated totals, which in the case of production are rounded to millions, include allowances for any missing data for countries shown and for other producing countries not shown. ††Data for individual years shown are not strictly comparable with averages shown, since recent estimates exclude data for farms of less than 2.5 acres. ‡‡Comprises Albania, Bulgaria, Czechoslovakia, Eastern Germany, Hungary, Poland and Rumania.

U.S. Grain Sorghums Output, Acreage by States

Note: By calendar years, 000's omitted **Source: USDA**

State—	Acreage, harvested Average 1943-52	1953	1954	Yield per acre, bu. Average 1943-52	1953	1954	Production, bu. Average 1943-52	1953	1954
Indiana	2	2	3	29.2	28.0	40.0	44	56	120
Missouri	36	34	66	19.3	15.0	16.0	707	510	1,056
South Dakota	45	28	52	12.8	20.0	17.5	567	560	910
Nebraska	106	182	516	19.8	16.0	26.0	2,166	2,912	13,416
Kansas	1,475	1,915	3,217	18.2	16.0	14.0	28,546	30,640	45,038
North Carolina	*18	59	89	*26.5	24.0	25.0	*486	1,416	2,225
South Carolina	*4	6	5	*17.4	16.5	12.5	*79	99	62
Alabama	*24	25	16	*16.9	18.0	14.5	*414	450	232
Arkansas	12	22	16	16.2	14.0	14.0	210	308	224
Louisiana	2	2	2	16.2	16.0	16.0	28	32	32
Oklahoma	689	613	533	13.2	12.5	9.0	9,546	7,662	4,797
Texas	4,249	2,836	5,471	18.5	19.5	21.5	79,379	55,198	117,386
Colorado	186	180	221	13.8	10.5	10.0	2,660	1,890	2,210
New Mexico	254	106	266	12.5	13.0	10.0	3,707	1,378	2,660
Arizona	52	41	135	40.1	46.0	45.0	2,085	1,886	6,075
California	104	99	156	39.1	44.0	49.0	4,064	4,356	7,644
U. S.	7,254	6,150	10,764	18.2	17.8	19.0	134,600	109,353	204,087

*Short-time average.

Harvesting in the U.S.

Note: Usual percentage of crops harvested in months indicated. Source: USDA.

	Per cent June	July	Aug.	Sept.
Wheat—				
New York	..	78	20	2
Pennsylvania	3	90	7	..
Virginia	68	31	1	..
Ohio	15	84	1	..
Indiana	34	63	3	..
Illinois	35	59	6	..
Michigan	..	75	23	2
Minnesota	..	21	76	3
Missouri	61	38	1	..
North Dakota	..	3	75	22
South Dakota	..	31	66	3
Nebraska	3	92	5	..
Kansas	49	51	..	..
Oklahoma	70	28	..	..
Texas	70	23	..	..
Montana	..	17	60	23
Washington	..	26	55	19
United States	22.0	42.3	28.4	6.5
Oats—				
New York	..	20	70	10
Pennsylvania	..	31	64	5
Ohio	..	59	41	..
Indiana	2	72	26	..
Illinois	4	80	16	..
Wisconsin	..	31	67	2
Minnesota	..	35	62	3
Iowa	1	80	19	..
North Dakota	..	8	70	22
South Dakota	..	43	55	2
Nebraska	1	79	20	..
Kansas	27	73	..	..
Oklahoma	60	39	..	..
Texas	64	24	1	..
Montana	..	9	61	30
United States	7.9	52.9	34.2	3.8
Barley—				
Wisconsin	..	67	33	..
Minnesota	..	69	29	2
North Dakota	..	25	68	7
South Dakota	..	70	28	2
California	33	41	13	3
United States	8.2	51.6	33.9	4.9
Rye—				
New York	1	76	22	1
Pennsylvania	5	87	8	..
Indiana	38	59	3	..
Michigan	1	76	23	..
Wisconsin	2	78	20	..
Minnesota	3	84	13	..
North Dakota	..	65	35	..
South Dakota	1	82	17	..
Nebraska	9	85	6	..
United States	11.3	71.5	16.3	0.7
Buckwheat—				
New York	..	..	4	69
Pennsylvania	..	..	3	68
Michigan	..	..	3	64
United States	..	0.8	6.7	64.9
Flaxseed—				
Minnesota	..	6	50	41
North Dakota	..	..	28	62
South Dakota	..	4	37	51
Montana	..	..	30	59
United States	0.1	3.0	31.5	56.5
Rice—				
Louisiana	..	1	22	45
Texas	..	2	23	30
Arkansas	..	..	1	28
California	..	..	..	5
United States	..	0.9	15.3	33.0

Texas harvests 7% of its wheat crop in May, and Oklahoma 2%; .5% of the country's wheat crop is harvested in May, and .3% in October. One per cent of the country's oats crop (11% of the Texas crop and 1% of Oklahoma's) is harvested in May, and .2% in October. Of the barley crop, 1.2% (5% of California's crop) is harvested in May, and .2% in October. Of the rye crop, .2% is harvested in May, and .7% (1% of New York's crop) in October. Of the buckwheat crop, 26.7% is harvested in October and .9% in November. Of the flax crop, 3.9% is harvested in October. Of the rice crop, 33.8% is harvested in October, 14.6% in November, and 2.4% in December.

Bread at West Point

One of the most popular foods at West Point is bread. The 1,800 cadets at the United States Military Academy consume 800 loaves of bread every day, according to the American Institute of Baking. The cadets, who are notable for their fine physique, each consume eight or nine slices of bread a day, in contrast to the five or six slices eaten by the average consumer.

Wheat in Canadian Provinces

Note: By crop years in bushels and acres. Source: Dominion Bureau of Statistics.

MANITOBA

Year—	Average acres	Crop bu.	Yield per acre bu.
1954*.....	2,035,000	26,000,000	12.8
1953.....	2,208,000	46,000,000	20.8
1952.....	2,368,000	57,000,000	24.1
1951.....	2,326,000	52,000,000	22.4
1950.....	2,382,000	50,000,000	21.0
1949.....	2,167,000	27,000,000	12.0
1948.....	2,397,000	57,000,000	23.8
1947.....	2,497,000	42,000,000	16.8
1946.....	2,522,000	58,000,000	23.0
1945.....	2,132,000	38,800,000	18.2
1944.....	2,505,800	54,900,000	21.9
1943.....	1,640,000	41,000,000	25.0
1942.....	1,930,000	53,650,000	27.8
1941.....	2,442,000	51,000,000	20.9

*Preliminary.

SASKATCHEWAN

Year—	Average acres	Crop bu.	Yield per acre bu.
1954*.....	15,540,000	151,000,000	9.7
1953.....	16,100,000	375,000,000	23.3
1952.....	16,432,000	435,000,000	26.5
1951.....	15,635,000	325,000,000	20.8
1950.....	16,203,000	260,000,000	16.0
1949.....	15,737,000	183,000,000	11.6
1948.....	14,389,000	191,000,000	13.3
1947.....	14,226,000	170,000,000	11.9
1946.....	14,085,000	208,000,000	14.8
1945.....	13,610,000	168,100,000	12.4
1944.....	13,200,000	250,000,000	18.9
1943.....	9,622,000	146,000,000	15.2
1942.....	12,353,000	304,400,000	24.6
1941.....	12,217,000	145,000,000	11.9

*Preliminary.

ALBERTA

Year—	Average acres	Crop, bu.	Yield per acre bu.
1954*.....	5,862,000	95,000,000	16.2
1953.....	6,340,900	163,000,000	25.7
1952.....	6,404,000	172,000,000	26.9
1951.....	6,424,000	152,000,000	23.7
1950.....	7,251,000	117,000,000	16.1
1949.....	7,586,000	97,000,000	12.8
1948.....	6,259,000	115,000,000	18.4
1947.....	6,534,000	103,000,000	15.5
1946.....	6,747,000	127,000,000	18.8
1945.....	6,824,000	87,700,000	12.9
1944.....	6,738,000	105,700,000	15.7
1943.....	4,829,000	80,000,000	16.6
1942.....	6,370,000	170,400,000	26.8
1941.....	6,481,000	97,000,000	15.0

*Preliminary.

TOTALS, THREE PROVINCES

Year—	Average acres	Crop bu.	Yield per acre bu.
1954*.....	23,437,000	272,000,000	11.6
1953.....	24,648,000	584,000,000	23.7
1952.....	25,204,000	664,000,000	26.3
1951.....	24,385,000	529,000,000	21.7
1950.....	25,836,000	427,000,000	16.5
1949.....	26,490,000	337,000,000	12.7
1948.....	23,045,000	363,000,000	15.8
1947.....	23,357,000	315,000,000	13.5
1946.....	23,354,000	393,000,000	16.8
1945.....	22,566,000	294,600,000	13.1
1944.....	22,443,800	410,600,000	18.3
1943.....	16,091,000	267,800,000	16.6
1942.....	20,653,000	528,450,000	25.6
1941.....	21,140,000	293,900,000	13.9

*Preliminary.

U.S. Wheat Production

Note: Wheat production in principal producing states, in million bushels. Source: USDA

	1954	1953	1952	1951	1950	1949	1948
Pa.	19.8	20.7	19.0	22.5	22.0	21.1	18.4
Ohio ...	48.5	60.1	55.1	18.0	22.0	60.0	57.6
Ind. ...	39.7	46.1	36.9	16.5	21.0	39.2	38.2
Ill.	44.9	56.8	41.8	19.0	19.5	46.9	41.0
Mich. ..	30.0	44.7	36.4	25.0	26.0	35.0	36.3
Minn. ..	9.8	16.2	16.9	18.6	16.7	20.0	18.4
Iowa ..	2.1	2.6	3.5	14.3	21.8	7.2	7.4
Mo.	40.1	41.0	26.3	17.0	17.5	35.0	39.3
N. D. ..	69.9	101.4	100.0	14.4	13.9	112.9	141.0
S. D. ..	27.0	32.2	31.4	14.9	10.8	34.3	50.4
Neb. ...	61.6	85.9	98.3	14.5	21.8	54.4	83.0
Kans. .	176.2	144.6	307.6	13.0	14.5	164.2	231.4
Va.	6.9	7.1	7.5	21.0	18.0	8.7	9.2
Md.	5.0	5.3	5.3	20.5	18.5	6.9	6.0
Okla. ..	70.8	70.8	107.1	9.5	9.0	88.7	99.0
Texas .	30.9	23.0	34.6	9.0	8.0	100.4	59.1
Mont. .	76.6	114.1	83.5	16.6	18.5	64.1	93.7
Idaho .	35.3	46.3	40.5	25.7	27.6	38.1	35.9
Colo. ..	16.5	42.3	54.9	14.1	16.0	49.6	64.6
Wash. .	72.4	84.1	80.5	27.1	26.6	57.5	79.3
Ore. ...	25.0	34.3	30.8	27.7	24.9	23.2	30.0
Calif. ..	9.3	11.3	13.5	17.0	21.0	11.5	10.5

World Corn Production, Yield and Acreage

Note: 000's omitted **Source: USDA**

Continent and country	Acreage† Average 1945-49	1952	1953	1954¶	Yield per acre‡ ave. 1945-49 bu.	Production Ave. 1945-49	1952	1953	1954¶
	1,000 acres					1,000 bu.			
N. America:									
Canada	238	339	362	418	45.2	10,755	19,722	20,854	19,823
Guatemala ..	1,208	1,375	1,500	....	14.9	17,991	17,200	19,000	.....
Honduras ...	....	....	....	....	...	.....	7,500	7,250	.....
Mexico	8,894	10,470	10,725	10,870	10.7	95,389	126,060	125,980	141,700
Nicaragua ...	174	303	252	....	16.0	2,782	4,290	3,390	.....
U. S.	85,696	81,099	80,279	80,164	35.7	3,056,861	3,279,403	3,176,615	2,949,643
Cuba	433	380	410	....	16.2	7,011	6,000	6,600	.....
Est. total§ .	98,530	95,980	95,530	95,520	...	3,217,000	3,483,000	3,383,000	3,172,000
Europe:									
Albania	242	....	....	....	20.7	5,020	.....	.....	.....
Austria	152	150	160	148	25.5	3,870	4,850	5,900	4,960
Czechoslovakia	353	....	....	....	25.8	9,098	.....	.....	.....
France	649	862	927	998	16.2	10,491	19,090	31,600	29,930
Greece	542	625	664	....	14.7	8,564	9,060	12,170	.....
Italy	3,250	3,310	3,350	3,340	28.0	90,980	102,000	125,000	110,000
Portugal	1,238	1,231	1,208	1,241	10.0	12,368	17,930	12,410	13,310
Spain	926	1,000	1,025	1,030	21.5	19,920	27,000	27,600	28,000
Est. total§ .	27,820	28,410	28,780	29,260	...	560,000	480,000	650,000	605,000
U.S.S.R. (Europe & Asia)	7,550	....	....	....	15.0	113,000	.....	.....	.....
Asia:									
Turkey	1,394	1,586	1,530	1,550	16.1	22,406	32,950	33,270	.....
China	12,711	12,200	....	....	21.6	274,013	260,000	.....	.....
Manchuria ...	6,680	7,670	....	....	19.5	130,000	165,000	.....	.....
India**	7,761	8,800	9,000	....	10.3	79,836	105,000	116,000	.....
Pakistan** ..	986	970	1,070	....	16.9	16,688	15,000	17,480	.....
Indonesia ...	5,500	....	....	....	15.6	86,000	.....	.....	.....
Japan	133	168	173	175	21.7	2,881	4,630	3,900	.....
Phil. Republic	1,820	2,721	2,700	....	10.1	18,340	28,420	29,900	.....
Est. total§ .	39,480	41,680	41,500	41,280	...	665,000	725,000	725,000	720,000
Africa:									
Belgian Congo	670	....	....	....	17.9	12,000	.....	.....	.....
Kenya††	136	145	160	....	24.9	3,393	4,000	4,500	.....
Egypt	1,699	1,770	2,090	....	33.4	56,696	59,300	73,000	.....
Fr. Morocco .	1,260	1,165	1,254	....	8.0	10,074	11,400	11,700	7,800
Fr. W. Africa	....	1,516	....	....	...	.....	13,200	.....	.....
Madagascar .	214	....	....	....	11.6	2,472	.....	.....	.....
Angola	....	....	....	....	....	12,900	.....	.....	.....
So. Rhodesia††	293	390	....	....	18.1	5,298	9,000	.....	.....
Un. of S. Africa	7,106	8,020	8,760	....	12.2	86,699	124,510	141,000	.....
Est. total§ .	19,260	21,280	22,410	21,930	...	265,000	320,000	350,000	330,000
S. America:									
Argentina ...	5,363	5,820	6,200	....	28.9	155,012	139,760	189,000	.....
Brazil	10,866	12,020	12,510	....	20.7	224,400	232,500	240,000	.....
Chile	115	126	133	....	22.5	2,589	3,560	3,350	.....
Colombia	1,654	1,730	1,730	....	15.4	25,429	30,310	30,310	.....
Uruguay	395	744	726	....	10.1	3,997	8,200	9,300	.....
Est. total§ .	20,840	22,830	23,680	24,260	...	450,000	455,000	510,000	530,000
Oceania:									
Australia ...	222	174	156	....	26.6	5,899	5,000	4,140	.....
New Zealand.	7	6	6	....	55.6	389	350	350	.....
Est. total§ .	235	185	165	185	...	6,370	5,430	4,570	4,900
Est. world total§ ...	213,720	217,560	218,960	221,240	...	5,275,000	5,590,000	5,730,000	5,500,000

Prepared or estimated on the basis of official statistics of foreign governments, reports of U.S. Foreign Service officers, results of office research or other information. Harvests of Northern Hemisphere countries are combined with those of the Southern Hemisphere which follow; thus, the crop harvested in the Northern Hemisphere in 1954 is combined with preliminary forecasts for the Southern Hemisphere harvest which will begin early in 1955. †Figures refer to harvested area as far as possible. ‡Yield per acre calculated from acreage and production data shown, except for incomplete periods. ¶Preliminary estimates for Northern Hemisphere countries; for the Southern Hemisphere, preliminary forecasts. §Estimated totals, which in the case of production are rounded to millions, include allowances for any missing data for countries shown and for other producing countries not shown. **Figures for the period shown are not strictly comparable since figures for 1952-54 include estimates for non-reporting areas which were not included with earlier figures shown, though allowances were included in estimated total for Asia. ††Production on European holdings only. Allowances for native cultivation, not shown, are included in estimated total for Africa.

Canadian Wheat Carry-Over

Note: In bushels, 000's omitted. Source: Dominion Bureau of Statistics.

	Production	Carry-over
1954*	298,913	587,487
1953	613,962	369,185
1952	687,922	217,178
1951	552,657	189,203
1950	461,664	112,200
1949	371,405	102,343
1948	392,345	77,710
1947	336,758	87,367
1946	420,725	73,600
1945	305,912	258,072
1944	435,535	355,176
1943	283,660	594,626
1942	592,684	423,752
1941	302,626	480,129
1940	551,390	300,473
1939	520,623	102,910
1938	360,010	24,535

*Preliminary.

Navigation in Canada

Port—	*Opening	*Closing
Montreal	April 25	Dec. 7
Prescott	April 25	Dec. 16
Kingston	April 20	Dec. 15
Port Colborne (Canal) ..	April 15	Dec. 15
Toronto	April 5	Dec. 15
Sarnia	April 15	Dec. 10
Goderich	April 20	Dec. 19
Wiarton	April 20	Dec. 10
Owen Sound	April 5	Dec. 10
Collingwood	April 5	Dec. 10
Meaford	April 3	Dec. 10
Midland	April 1	Dec. 10
Parry Sound	April 4	Dec. 10
Sault Ste. Marie	April 20	Dec. 10
Port Arthur	April 20	Dec. 15
Fort William	April 20	Dec. 12

*On or about specified dates. In 1953 navigation opened March 27 and closed Dec. 14 as a result of favorable weather conditions. In 1954 the opening was delayed to April 16 and navigation closed down Dec. 13. The latest closing on record was Dec. 24, 1923.

U.S. Rye Production and Acreage by States

Note: By calendar years, 000's omitted. **Source: USDA**

State—	Acreage, harvested— Average 1943-52	1953	1954	Yield per acre, bu.— Average 1943-52	1953	1954	Production, bu.— Average 1943-52	1953	1954
New York	13	11	15	18.0	19.5	20.0	233	214	300
New Jersey	13	10	12	17.5	19.0	20.5	222	190	246
Pennsylvania	24	12	15	15.3	18.0	21.0	353	216	315
Ohio	29	20	48	16.6	19.0	19.5	462	380	936
Indiana	63	60	110	13.2	15.5	17.0	826	930	1,870
Illinois	49	43	114	13.0	14.0	18.0	636	602	2,052
Michigan	60	46	57	13.8	14.5	15.5	827	667	884
Wisconsin	90	46	42	11.3	11.5	12.0	1,009	529	504
Minnesota	151	125	92	13.7	15.0	14.5	2,108	1,875	1,334
Iowa	12	5	5	14.6	14.5	16.0	178	72	80
Missouri	37	36	60	11.4	14.0	17.0	422	504	1,020
North Dakota	223	200	308	11.9	17.5	14.5	2,674	3,500	4,466
South Dakota	367	238	164	12.0	12.5	15.0	4,400	2,975	2,460
Nebraska	280	136	155	10.0	9.0	10.0	2,854	1,224	1,550
Kansas	60	38	82	10.5	9.5	11.0	628	361	902
Delaware	17	13	16	13.7	14.5	16.5	236	188	264
Maryland	16	13	14	14.6	16.0	18.0	234	208	252
Virginia	26	16	24	13.9	16.0	17.0	362	256	408
West Virginia	3	2	2	13.0	14.0	16.0	38	28	32
North Carolina	24	16	18	12.4	14.5	15.0	284	232	270
South Carolina	10	13	16	10.2	11.0	11.5	102	143	184
Georgia	7	10	8	9.4	10.5	10.0	67	105	80
Kentucky	29	29	33	13.2	14.0	16.5	386	406	544
Tennessee	26	28	23	10.2	11.5	11.5	267	322	264
Oklahoma	64	95	115	7.8	7.5	8.0	519	712	920
Texas	24	35	42	8.4	9.0	8.5	206	315	357
Montana	17	8	12	11.4	13.0	11.5	203	104	138
Idaho	4	3	4	14.3	15.0	13.0	60	45	52
Wyoming	9	4	6	10.0	12.0	10.0	93	48	60
Colorado	54	23	46	8.7	8.0	6.0	487	184	276
New Mexico	6	3	5	8.7	9.0	10.0	52	27	50
Utah	7	7	6	9.6	9.0	9.0	70	63	54
Washington	15	11	23	11.4	12.5	11.0	177	138	253
Oregon	27	21	18	13.3	14.5	11.5	361	304	207
California	10	8	8	11.4	12.0	13.0	114	96	104
U. S.	1,867	1,384	1,718	11.9	13.1	13.8	22,149	18,163	23,688

U.S. Buckwheat Production and Acreage by States

Note: By calendar years, 000's omitted. **Source: USDA**

State—	Acreage, harvested— Average 1943-52	1953	1954	Yield per acre, bu.— Average 1943-52	1953	1954	Production, bu.— Average 1943-52	1953	1954
Maine	5	3	3	19.2	21.0	15.0	94	63	45
New York	100	55	50	18.4	20.0	18.0	1,810	1,100	900
Pennsylvania	91	42	33	19.4	19.5	21.0	1,746	819	693
Ohio	17	7	6	18.8	18.5	20.5	309	130	123
Indiana	8	2	2	14.6	14.0	16.0	115	28	32
Michigan	27	15	13	14.7	16.0	16.0	395	240	208
Wisconsin	23	21	18	15.3	16.0	15.5	348	336	279
Minnesota	35	16	11	13.0	16.0	18.0	461	256	198
Maryland	4	2	2	21.6	21.5	23.0	82	43	46
West Virginia	8	4	5	19.8	19.5	24.0	149	78	120
Tennessee	9	8	6	15.8	12.5	12.5	143	100	75
U. S.	352	175	149	17.4	18.2	18.2	6,027	3,193	2,719

U.S. Soybean Production and Acreage by States

Note: Acreage and Output, 000's omitted **Source: USDA**

State—	Acreage, harvested*— Average 1943-52	1953	1954	Yield per acre, bu.— Average 1943-52	1953	1954	Production, bu.— Average 1943-52	1953	1954
New York	8	5	8	16.2	16.0	11.0	122	80	88
New Jersey	16	27	24	17.7	18.0	22.0	281	486	528
Pennsylvania	27	19	17	16.2	17.0	18.0	427	323	306
Ohio	1,032	1,036	1,165	20.1	20.5	25.5	20,674	21,238	29,708
Indiana	1,516	1,808	1,922	20.7	21.0	24.0	31,488	37,968	46,128
Illinois	3,570	3,846	4,289	22.7	20.5	21.5	80,946	78,843	92,214
Michigan	95	110	158	18.3	19.0	22.0	1,736	2,090	3,476
Wisconsin	38	56	69	13.8	14.5	15.0	526	812	1,035
Minnesota	760	1,351	2,014	16.3	20.5	21.0	12,754	27,696	42,294
Iowa	1,707	1,657	2,150	21.0	21.5	26.0	35,527	35,626	55,900
Missouri	933	1,932	1,836	18.1	14.0	15.0	17,372	27,048	27,540
North Dakota	15	23	71	11.4	13.5	15.5	179	310	1,100
South Dakota	39	87	173	14.2	19.0	18.0	541	1,653	3,114
Nebraska	40	105	190	20.0	18.5	22.0	820	1,942	4,180
Kansas	296	496	306	12.6	8.0	8.0	3,802	3,968	2,448
Delaware	51	64	68	13.2	16.5	17.5	689	1,056	1,190
Maryland	52	95	108	14.8	19.0	18.5	800	1,805	1,998
Virginia	115	167	187	16.2	16.0	15.5	1,914	2,672	2,898
North Carolina	254	263	295	13.8	15.5	16.0	3,559	4,076	4,720
South Carolina	41	130	130	10.0	11.0	7.0	456	1,430	910
Georgia	17	45	30	9.1	12.0	7.0	160	540	210
Florida	...	14	29	...	18.0	12.0	...	252	348
Kentucky	102	96	128	16.8	13.0	16.0	1,740	1,248	2,048
Tennessee	120	150	180	17.5	13.5	12.0	2,200	2,025	2,160
Alabama	52	92	104	16.5	20.5	11.5	921	1,886	1,196
Mississippi	209	250	519	15.2	12.0	9.5	3,333	3,000	4,930
Arkansas	391	665	791	17.0	11.0	11.5	6,859	7,315	9,096
Louisiana	30	40	53	14.2	16.0	16.0	434	640	848
Oklahoma	25	50	18	9.8	10.0	5.5	285	500	99
Texas	...	...	5	...	...	17.0	...	...	85
U. S.	11,559	14,679	17,037	19.9	18.3	20.1	230,649	268,528	342,795

*Equivalent solid acreage. (Acreage grown alone, with an allowance for acreage grown with other crops.)

U.S. Wheat Crop and Value

Note: By calendar years, 000's omitted. **Source: USDA**

Winter wheat	Acres	Crop— Bu. per acre	Total bu.	Value bu.
1954†	38,636	20.5	790,737	$2.110
1953	46,820	18.8	881,608	2.030
1952	50,692	20.9	1,059,558	2.090
1951	39,823	16.2	646,325	2.140
1950	43,253	17.1	740,682	2.010
1949	54,414	15.8	858,127	1.860
1948	52,963	18.7	990,141	2.000
1947	54,935	19.3	1,058,976	2.240
1946	48,371	18.0	869,592	1.900
1945	47,024	17.4	816,989	1.500
1944	41,125	18.3	751,901	1.430
1943	34,563	15.6	537,476	1.390
1942	36,020	19.5	702,159	1.111
1941	39,778	16.9	673,727	.957
1940	36,095	16.4	592,809	.690
1939	37,681	15.0	565,672	.694
1938	49,567	13.8	685,178	.573
1937	47,075	14.6	688,574	.978
1936	37,944	13.8	523,603	1.020
1935	33,602	14.0	469,412	.827
1934	34,683	12.6	438,683	.844
1933	30,348	12.5	378,283	.777
1932	36,101	13.6	491,511	.391
1931	43,488	19.0	825,815	.381
Spring wheat, including durum—				
1954†	15,076	11.9	179,004	$2.200
1953	20,841	13.8	287,876	2.080
1952	20,234	11.8	239,399	2.100
1951	21,669	15.4	334,485	2.070
1950	18,357	15.2	278,707	2.000
1949	21,496	11.2	240,288	1.930
1948	19,455	15.7	304,770	1.980
1947	19,584	15.3	299,935	2.440
1946	18,734	15.1	282,526	1.950
1945	18,143	16.0	290,634	1.500
1944	18,624	16.5	308,210	1.379
1943	16,792	18.2	306,337	1.320
1942	13,753	19.4	267,222	1.065
1941	16,157	16.6	268,243	.913
1940	17,178	12.9	221,837	.662
1939	14,988	11.7	175,538	.685
1938	19,630	12.0	234,785	.527
1937	17,094	10.8	185,340	.904
1936	11,181	9.5	106,277	1.051
1935	17,703	9.0	158,815	.841
1934	8,664	10.1	87,369	.867
1933	19,076	9.1	173,932	.673
1932	21,750	12.2	264,796	.365
1931	14,216	8.2	116,225	.454
All wheat—				
1954†	53,712	18.1	969,781	$2.130
1953	67,661	17.3	1,169,484	2.040
1952	70,926	18.3	1,298,957	2.090
1951	61,492	16.0	980,810	2.110
1950	61,610	16.5	1,019,389	2.000
1949	75,910	14.5	1,098,415	1.880
1948	72,418	17.9	1,294,911	1.990
1947	74,519	18.2	1,358,911	2.290
1946	67,105	17.2	1,152,118	1.910
1945	65,167	17.0	1,107,623	1.500
1944	59,749	17.7	1,060,111	1.410
1943	51,355	16.4	843,813	1.360
1942	49,773	19.5	969,381	1.100
1941	55,935	16.8	941,970	.944
1940	53,273	15.3	814,646	.682
1939	52,669	14.1	741,210	.691
1938	69,197	13.3	919,913	.562
1937	64,169	13.6	873,914	.962
1936	49,125	12.8	629,880	1.025
1935	51,305	12.2	628,227	.831
1934	43,347	12.1	526,052	.848
1933	49,424	11.2	552,215	.744
1932	57,851	13.1	756,307	.382
1931	57,704	16.3	941,540	.391

†Preliminary.

U.S. Wheat Acreage Harvested

Note: Harvested acreage in principal wheat producing states. 000's omitted. **Source: USDA**

State	1954	1953	1952	1951	1950	1949
Pa.	707	862	845	837	868	918
Ohio	1,764	2,384	2,249	1,906	2,118	2,353
Ind.	1,302	1,648	1,540	1,426	1,533	1,740
Ill.	1,549	2,103	1,810	1,757	1,417	1,913
Mich.	1,000	1,515	1,429	1,232	1,141	1,297
Minn.	780	997	1,155	1,076	927	1,281
Iowa	114	132	163	1,555	250	382
Mo.	1,294	1,578	1,199	1,318	1,359	1,946
N. D.	7,736	9,843	9,917	10,485	8,942	10,606
S. D.	2,676	3,503	3,813	3,839	3,359	4,074
Neb.	3,107	3,656	4,390	4,005	4,051	3,761
Kans.	10,069	11,573	14,649	9,701	12,280	14,279
Md.	195	257	262	262	279	362
Va.	272	339	353	357	376	472
Okla.	4,718	4,898	5,700	4,095	4,707	6,825
Texas	3,252	2,710	3,011	1,923	2,374	6,924
Mont.	4,495	6,056	5,811	4,953	5,910	5,140
Idaho	1,192	1,622	1,536	1,480	1,342	1,537
Colo.	1,622	2,704	3,117	2,476	2,314	2,884
Wash.	2,184	2,939	2,889	2,774	2,621	2,707
Ore.	878	1,220	1,102	1,048	952	1,050
Calif.	463	594	647	573	651	620

U.S. Crops and Value

Note: By calendar years, 000's omitted. **Source: USDA**

	Acres	Crop — Bu. acre	Crop — Total bu.	Value bu.
Corn—				
1954†	79,875	37.1	2,964,639	$1.510
1953	80,608	39.6	3,192,491	1.480
1952	81,099	40.4	3,279,403	1.520
1951	80,736	35.9	2,899,169	1.660
1950	81,817	37.4	3,057,803	1.530
1949	85,602	37.8	3,238,618	1.250
1948	84,778	42.5	3,605,078	1.300
1947	82,888	28.4	2,354,739	2.160
1946	87,585	36.7	3,217,076	1.560
1945	87,625	32.7	2,868,795	1.270
1944	94,014	32.8	3,087,982	1.090
1943	92,060	32.2	2,965,980	1.120
1942	87,367	35.1	3,068,562	.917
1941	85,357	31.1	2,651,889	.751
1940	86,429	28.4	2,457,146	.618
1939	88,279	29.2	2,580,985	.568
1938	92,160	27.7	2,548,753	.486
1937	93,930	28.1	2,642,978	.513
1936	93,154	16.2	1,505,689	1.044
1935	95,974	24.0	2,299,363	.655
1934	92,193	15.7	1,448,920	.815
1933	105,918	22.6	2,397,593	.520
1932	110,577	26.5	2,930,352	.316
1931	106,866	24.1	2,575,927	.321
1930	101,465	20.5	2,080,130	.598
1929	97,805	25.7	2,515,937	.799
1928	100,336	26.6	2,665,516	.840
1927	98,357	26.6	2,616,120	.847
Oats—				
1954†	42,151	35.6	1,499,579	$0.722
1953	39,217	30.8	1,209,458	.743
1952	38,422	32.8	1,260,127	.786
1951	36,525	36.2	1,321,288	.823
1950	40,733	34.6	1,410,464	.791
1949	39,236	32.0	1,254,885	.657
1948	39,280	36.9	1,450,186	.723
1947	37,855	31.1	1,176,142	1.050
1946	42,812	34.5	1,477,573	.809
1945	41,739	36.5	1,523,851	.667
1944	39,741	28.9	1,149,240	.709
1943	38,914	29.3	1,139,831	.722
1942	38,197	35.2	1,342,681	.488
1941	38,161	31.0	1,182,509	.411
1940	35,431	35.2	1,246,450	.303
1939	33,460	28.6	957,704	.310
1938	36,042	30.2	1,089,383	.238
1937	35,542	33.1	1,176,744	.302
1936	33,654	23.6	792,583	.449
1935	40,109	30.2	1,210,229	.264
1934	29,455	18.5	544,247	.481
1933	36,528	20.2	736,309	.335
1932	41,700	30.1	1,254,584	.157
1931	40,193	28.0	1,124,282	.213
1930	39,847	32.0	1,274,592	.322
1929	38,153	29.2	1,112,949	.418
1928	40,128	32.7	1,312,914	.407
1927	40,350	27.1	1,093,221	.471
Barley—				
1954†	12,994	28.5	370,126	$1.050
1953	8,586	28.2	242,544	1.150
1952	8,244	27.4	326,014	1.350
1951	9,436	26.9	254,287	1.240
1950	11,153	27.2	303,533	1.180
1949	9,872	24.0	237,071	1.040
1948	11,905	26.5	315,537	1.150
1947	10,955	25.7	281,868	1.700
1946	10,380	25.5	265,059	1.360
1945	10,454	25.5	266,994	1.020
1944	12,301	22.5	276,275	1.010
1943	14,900	21.7	322,913	.991
1942	16,958	25.3	429,450	.632
1941	14,276	25.4	362,568	.529
1940	13,525	23.0	311,278	.397
1939	12,739	21.8	278,193	.405
1938	10,610	24.2	256,620	.368
1937	9,969	22.3	221,899	.542
1936	8,329	17.7	147,740	.782
1935	12,436	23.2	288,667	.379
1934	6,577	17.8	117,390	.686
1933	9,641	15.9	152,839	.434
1932	13,206	22.7	299,394	.221
1931	11,181	17.9	200,280	.328
1930	12,629	23.9	301,619	.405
1929	13,564	20.7	280,637	.539
1928	12,735	25.8	328,351	.568
1927	9,465	25.3	239,071	.689

†Preliminary.

Chicago Oat Prices

Note: High and low, in cents per bushel for contract grades and better. Source: Chicago Board of Trade.

	Lowest	Range	Highest
1954	August	69 @96	January
1953	November	69½ @95	January
1952	July	79½ @106⅝	January
1951	June	75 @112¼	November
1950	January	72¼ @105½	December
1949	July	58½ @ 93	January
1948	August	70 @153⅛	January
1947	January	80½ @139	December
1946	July	74 @106	July
1945	August	58¾ @87	December

U.S. Combined Wheat Production and Acreage

Note: By calendar years, 000's omitted **Source: USDA**

State—	Acreage, harvested — Average 1943-52	1953	1954	Yield per acre, bu. — Average 1943-52	1953	1954	Production, bu. — Average 1943-52	1953	1954
New York	362	471	330	25.8	29.5	30.5	9,401	13,894	10,065
New Jersey	71	81	54	23.2	25.0	28.0	1,660	2,025	1,512
Pennsylvania	886	862	707	21.5	24.0	28.0	19,120	20,688	19,796
Ohio	2,056	2,384	1,764	22.9	29.0	27.5	47,618	69,136	48,510
Indiana	1,471	1,648	1,302	20.8	28.0	30.5	31,005	46,144	39,711
Illinois	1,481	2,122	1,549	19.8	27.0	29.0	29,974	57,294	44,921
Michigan	1,115	1,515	1,000	25.0	29.5	30.0	28,189	44,692	30,000
Wisconsin	88	70	59	23.4	23.1	24.3	2,073	1,620	1,433
Minnesota	1,147	997	708	17.2	16.2	13.9	19,721	16,171	9,828
Iowa	203	137	114	19.1	20.4	18.0	3,989	2,791	2,052
Missouri	1,318	1,578	1,294	17.2	26.0	31.0	22,932	41,028	40,114
North Dakota	9,810	9,843	7,736	14.1	9.9	9.0	137,115	97,304	69,896
South Dakota	3,544	3,603	2,674	12.2	9.2	10.1	42,971	32,224	27,008
Nebraska	3,849	3,856	3,107	19.3	22.3	19.8	75,104	85,980	61,623
Kansas	12,708	11,573	10,069	15.9	12.5	17.5	203,980	144,662	176,208
Delaware	62	51	35	18.7	19.5	23.5	1,154	994	822
Maryland	316	257	195	19.4	20.5	25.5	6,154	5,268	4,972
Virginia	426	358	272	18.1	21.0	25.5	7,667	7,518	6,936
West Virginia	74	59	48	18.4	21.5	24.0	1,366	1,268	1,152
North Carolina	416	412	338	16.7	20.5	22.0	6,915	8,446	7,436
South Carolina	193	202	158	15.4	18.0	19.5	2,958	3,636	3,081
Georgia	152	160	112	14.2	18.5	18.5	2,122	2,960	2,072
Kentucky	301	308	216	15.9	22.0	25.5	4,768	6,776	5,508
Tennessee	288	305	214	14.4	19.0	18.5	4,098	5,795	3,959
Alabama	13	21	24	16.1	22.0	22.0	211	462	528
Mississippi	11	45	28	21.7	26.5	28.0	233	1,192	784
Arkansas	27	86	63	14.4	19.0	26.0	396	1,634	1,638
Oklahoma	5,534	5,898	4,718	13.3	12.0	15.0	75,634	70,776	70,770
Texas	4,628	2,710	3,252	11.8	8.5	9.5	57,221	23,035	30,894
Montana	4,685	5,874	4,498	16.6	19.5	17.0	76,583	114,330	76,557
Idaho	1,304	1,695	1,192	27.1	28.6	29.7	35,152	48,417	35,343
Wyoming	315	413	255	18.6	16.5	13.0	5,859	6,823	3,315
Colorado	2,264	2,813	1,622	18.3	15.6	10.2	41,204	43,875	16,500
New Mexico	328	120	98	9.3	6.2	6.6	3,358	745	643
Arizona	25	23	21	23.3	26.0	28.0	591	598	588
Utah	358	441	349	21.9	20.6	18.8	7,736	9,081	6,555
Nevada	18	17	12	27.7	27.5	27.0	499	468	324
Washington	2,600	2,939	2,184	26.3	28.6	33.2	68,442	84,150	72,444
Oregon	980	1,220	878	25.7	28.1	28.5	25,142	34,298	25,023
California	596	594	463	18.7	19.0	20.0	11,178	11,286	9,260
U. S.	66,025	67,661	53,712	17.0	17.3	18.1	1,121,506	1,169,484	969,781

U.S. Oats Production, Yield & Acreage by States

Note: By calendar years, 000's omitted **Source: USDA**

State—	Acreage, harvested — Average 1943-52	1953	1954	Yield per acre, bu. — Average 1943-52	1953	1954	Production, bu. — Average 1943-52	1953	1954
Maine	82	93	91	39.1	45.0	33.0	3,233	4,185	3,003
New Hampshire	6	4	4	35.8	37.0	30.0	216	148	120
Vermont	38	29	28	33.0	32.0	30.0	1,250	928	840
Massachusetts	6	3	3	31.7	39.0	33.0	176	117	99
Rhode Island	1	1	...	31.0	33.0	...	31	33	...
Connecticut	5	4	4	31.7	31.0	36.0	149	124	144
New York	685	670	717	34.2	39.0	37.5	23,990	26,130	26,888
New Jersey	42	40	45	31.9	37.0	39.5	1,335	1,480	1,778
Pennsylvania	763	740	777	32.1	37.0	43.0	24,481	27,380	33,411
Ohio	1,144	1,129	1,219	36.5	42.0	46.5	42,426	47,418	56,684
Indiana	1,331	1,252	1,340	34.6	36.5	44.0	46,155	45,698	58,960
Illinois	3,523	3,110	3,328	39.0	37.0	42.0	138,234	115,070	139,776
Michigan	1,383	1,395	1,423	35.9	35.0	39.0	50,243	48,825	55,497
Wisconsin	2,857	2,953	2,894	44.7	41.5	44.0	127,907	122,550	127,336
Minnesota	4,915	5,140	5,191	38.0	31.5	35.0	187,584	161,910	181,685
Iowa	5,645	5,766	5,997	36.6	25.5	38.5	208,234	147,033	230,884
Missouri	1,575	1,254	1,442	23.8	25.5	41.5	37,766	31,977	59,843
North Dakota	2,179	1,840	2,061	28.2	30.5	24.0	62,424	56,120	49,464
South Dakota	3,138	3,696	3,992	30.5	25.5	28.5	96,048	94,248	113,772
Nebraska	2,371	2,331	2,354	25.6	18.5	29.0	60,837	43,124	68,266
Kansas	1,199	1,062	1,115	21.6	21.5	32.5	26,557	22,833	36,238
Delaware	6	8	9	30.3	34.0	36.0	184	272	324
Maryland	43	55	69	32.2	34.0	39.0	1,384	1,870	2,691
Virginia	138	156	179	29.1	32.5	39.5	4,014	5,070	7,070
West Virginia	62	48	55	28.1	28.5	34.5	1,720	1,368	1,898
North Carolina	363	429	523	29.4	38.5	39.0	10,749	16,516	20,397
South Carolina	635	658	757	26.1	32.5	31.5	16,580	21,385	23,846
Georgia	529	659	685	25.7	33.0	31.0	13,523	21,747	21,235
Florida	28	40	36	19.9	30.0	30.0	575	1,200	1,080
Kentucky	94	127	175	23.4	30.5	32.5	2,188	3,874	5,688
Tennessee	221	268	292	26.0	32.0	30.5	5,726	8,576	8,906
Alabama	168	195	240	25.0	32.0	29.0	4,140	6,240	6,960
Mississippi	280	267	427	29.5	40.0	40.0	8,300	10,680	17,080
Arkansas	232	209	351	28.0	35.0	40.0	6,486	7,315	14,040
Louisiana	90	75	104	27.2	32.0	36.0	2,464	2,400	3,744
Oklahoma	871	539	782	18.9	21.5	25.0	16,980	11,588	19,550
Texas	1,229	1,450	1,798	20.9	27.0	23.0	26,309	39,150	41,354
Montana	353	334	354	33.3	34.0	31.5	11,871	11,356	11,151
Idaho	183	200	220	42.5	42.0	48.0	7,790	8,400	10,560
Wyoming	147	152	132	30.8	28.5	27.0	4,536	4,332	3,564
Colorado	201	185	139	30.2	29.5	26.0	6,068	5,458	3,614
New Mexico	37	20	22	21.4	21.0	27.0	800	420	594
Arizona	11	11	11	39.6	53.0	45.0	430	583	495
Utah	48	42	45	44.5	47.0	44.0	2,123	1,974	1,980
Nevada	88	8	7	40.8	43.0	44.0	343	344	308
Washington	152	131	153	46.5	50.0	47.0	7,033	6,550	7,191
Oregon	334	264	365	28.7	30.4	34.3	9,582	8,034	12,515
California	174	175	196	29.6	31.0	36.0	5,163	5,425	7,056
U. S.	39,526	39,217	42,151	33.3	30.8	35.6	1,316,359	1,209,458	1,499,579

World Rye Production, Yield and Acreage

Note: 000's omitted **Source: USDA**

Continent and country	Acreage† Average 1945-49	1952	1953	1954¶	Yield per acre‡ ave. 1945-49	Production Ave. 1945-49	1952	1953	1954¶
	1,000 acres				bu.	1,000 bu.			
N. America:									
Canada	1,129	1,274	1,494	850	11.2	12,653	24,833	28,775	14,172
U. S.	1,810	1,385	1,382	1,706	12.3	22,336	15,910	17,998	23,293
Total	2,939	2,659	2,876	2,556	...	34,989	40,743	46,773	37,465
Europe:									
Austria	616	610	561	546	19.9	12,260	17,000	15,750	14,720
Belgium**	259	203	182	190	36.3	9,410	8,690	8,000	9,000
Denmark	379	339	328	277	34.2	12,958	14,100	13,030	10,830
Finland	376	310	250	220	21.2	7,960	7,750	5,750	5,100
France	1,202	1,065	1,008	1,027	17.2	20,618	19,000	18,400	21,150
W. Germany	3,480	3,350	3,442	3,760	28.4	98,900	122,780	129,170	155,000
Greece	130	165	168	152	12.8	1,664	2,220	2,660	2,000
Italy	253	240	235	230	17.9	4,520	5,200	5,300	4,700
Luxembourg	15	11	12	14	26.3	395	350	370	443
Netherlands	492	480	425	413	31.5	15,520	20,500	18,000	18,500
Norway	4	1	2	1	32.8	131	45	55	40
Portugal	630	650	661	640	8.0	5,460	6,900	6,880	7,190
Spain	1,553	1,525	1,525	1,540	11.0	17,117	19,410	18,500	19,000
Sweden	363	311	328	370	28.4	10,323	11,190	11,780	12,110
Switzerland	32	37	37	36	33.9	1,084	1,530	1,470	1,425
U. K.	59	56	68	47	30.0	1,768	2,000	2,640	1,760
Est. total§	10,480	9,990	9,920	10,120	...	228,000	267,000	269,000	290,000
Other Europe est. total††	17,360	19,250	17,130	17,210	...	337,000	408,000	366,000	395,000
Est. total, all Europe§	27,840	29,240	27,050	27,330	...	565,000	675,000	635,000	685,000
U.S.S.R. (Europe & Asia)	72,300	....	....	....	12.4	895,000	.....	.....	.....
Asia:									
Turkey	1,017	1,450	1,599	1,483	13.5	13,679	26,380	29,000	15,750
S. America:									
Argentina	1,561	3,490	2,066	....	9.6	14,944	52,550	23,900	31,500
Africa:									
Un. of S. Africa	197	....	....	....	4.9	973	.....	.....	.....
Est. world total§	106,100	98,260	89,030	89,320	...	1,530,000	1,675,000	1,490,000	1,525,000

Prepared or estimated on the basis of official statistics of foreign governments, reports of U.S. Foreign Service officers, results of office research or other information. Harvests of Northern Hemisphere countries are combined with those of the Southern Hemisphere which immediately follow; thus, the crop harvested in the Northern Hemisphere in 1954 is combined with preliminary forecasts for the Southern Hemisphere harvests which began late in 1954 and end early in 1955. †Figures refer to harvested areas as far as possible. ‡Yield per acre calculated from acreage and production data shown, except for incomplete periods. ¶Revised estimates for Northern Hemisphere countries; for Southern Hemisphere, preliminary forecasts based largely on acreage and weather conditions to date. **Data for individual years shown are not strictly comparable with averages, since recent estimates exclude data for farms of less than 2.5 acres. §Estimated totals, which in the case of production are rounded to millions, include allowances for any missing data for countries shown and for other producing countries not shown. ††Comprises Albania, Bulgaria, Czechoslovakia, Eastern Germany, Hungary, Poland and Rumania.

U.S. Barley Production and Acreage by States

Note: By calendar years, 000's omitted **Source: USDA**

State—	Acreage, harvested Average 1943-52	1953	1954	Yield per acre, bu. Average 1943-52	1953	1954	Production, bu. Average 1943-52	1953	1954
Maine	4	3	4	30.3	33.0	25.0	134	99	100
New York	92	64	80	27.9	30.0	32.0	2,524	1,920	2,560
New Jersey	14	19	21	33.1	35.0	40.0	464	665	840
Pennsylvania	135	155	200	33.9	39.0	44.0	4,606	6,045	8,800
Ohio	22	20	54	27.6	33.0	37.0	578	660	1,998
Indiana	30	27	55	24.8	27.5	35.0	738	742	1,925
Illinois	37	26	65	27.5	32.5	33.0	997	845	2,145
Michigan	125	68	107	29.6	31.5	35.0	3,648	2,142	3,745
Wisconsin	182	80	79	34.7	35.0	36.0	6,119	2,800	2,844
Minnesota	1,019	1,000	1,100	25.5	25.5	25.5	25,838	25,500	28,050
Iowa	26	7	18	26.0	23.0	29.0	679	161	522
Missouri	75	103	250	21.5	29.5	28.0	1,594	3,038	7,000
North Dakota	2,286	2,057	3,003	21.0	23.5	22.5	48,529	48,340	67,568
South Dakota	1,323	471	466	19.1	17.0	20.0	25,172	8,007	9,320
Nebraska	543	191	250	19.0	19.0	18.0	9,989	3,629	4,500
Kansas	383	112	459	16.9	14.0	21.5	6,419	1,568	9,868
Delaware	11	10	11	28.6	31.5	31.0	312	315	341
Maryland	72	73	85	31.3	34.0	40.0	2,245	2,482	3,400
Virginia	80	87	102	30.1	33.0	39.0	2,406	2,871	3,978
West Virginia	10	13	15	28.8	33.5	39.0	302	436	585
North Carolina	38	44	57	27.2	37.5	34.0	1,035	1,650	1,938
South Carolina	20	17	18	23.3	27.5	29.0	476	468	522
Georgia	7	9	9	21.7	25.0	24.0	140	225	216
Kentucky	66	85	102	23.9	27.0	31.0	1,558	2,295	3,162
Tennessee	78	75	77	19.0	20.0	20.5	1,477	1,500	1,578
Arkansas	6	7	14	19.8	24.0	26.0	125	168	364
Oklahoma	130	39	230	15.3	19.0	19.0	1,390	741	4,370
Texas	160	90	190	15.6	19.5	16.5	2,628	1,755	3,135
Montana	665	550	1,282	25.8	27.0	26.0	17,161	14,850	33,332
Idaho	335	336	554	35.0	32.0	32.5	11,739	10,752	18,005
Wyoming	140	119	152	30.3	28.0	24.0	4,230	3,332	3,648
Colorado	602	344	351	24.8	27.0	20.0	15,048	9,288	7,020
New Mexico	28	19	25	20.0	29.5	21.0	555	390	525
Arizona	102	141	268	45.0	55.0	52.0	4,764	7,755	13,936
Utah	134	145	181	44.8	44.0	40.0	5,973	6,380	7,240
Nevada	21	19	24	34.9	39.0	33.0	739	741	792
Washington	146	103	570	35.0	38.0	36.0	5,175	3,914	20,520
Oregon	294	301	551	33.6	37.0	36.0	9,843	11,137	19,836
California	1,513	1,557	1,915	30.9	34.0	36.5	46,926	52,938	69,898
U. S.	10,960	8,586	12,994	25.3	28.2	28.5	274,955	242,544	370,126

U.S. Crop Report Dates

Following are the release dates for crop and livestock reports for 1955 issued by the U.S. Department of Agriculture. All reports released at Washington at 3 p.m. e.s.t. unless otherwise noted.

GENERAL REPORTS ON PRODUCTION

Jan. 10—Stocks of corn for grain, wheat, oats, barley, sorghum grain, rye, flaxseed, soybeans and hay on farms as of Jan. 1; milk production; poultry and egg production; indicated production of citrus fruits (1954-55 crop).

Feb. 10—Milk production; grain fed per milk cow; poultry and egg production; indicated production of citrus fruits (1954-55 crop).

March 10—Milk production; poultry and egg production; indicated production of citrus fruits (1954-55 crop).

March 18—Prospective plantings for 1955 as indicated by reported intentions for corn, durum wheat, other spring wheat, oats, barley, flaxseed, rice, all sorghums, potatoes, sweet potatoes, tobacco, dry edible beans, dry field peas, soybeans, peanuts, and sugar beets; acreage of hay for harvest.

April 11—Indicated production of winter wheat; indicated percentage of winter wheat seedings not harvested for grain, U.S.; condition of rye and pasture; for certain states, condition of peaches; stocks of corn for grain, wheat, oats, barley, rye, flaxseed and soybeans on farms as of April 1; milk production; grain fed per milk cow; poultry and egg production; indicated production of citrus fruits (1954-55 crop), Florida limes (1955 crop).

May 10—Acreage remaining for harvest as of May 1, yield per acre and indicated production of winter wheat and rye; percentage of winter wheat and rye seedings not harvested for grain for U.S.; condition of hay, pasture and miscellaneous fruits and nuts; stocks of hay on farms; for certain states, condition of peaches, pears, grapes and cherries; indicated production of citrus fruits (1954-55 crop); peaches in 10 early southern states, apricots, cherries and plums in California and of Florida limes (1955 crop); preliminary production of maple products (1955 crop); milk production; poultry and egg production. Also for 1954 crop, acreage, yield per acre, production and value of production of tobacco (by types and classes).

June 10—Indicated yield per acre as of June 1 of winter wheat and rye; indicated production of winter wheat, spring wheat, rye, peaches, pears, cherries, apricots, California plums, prunes and walnuts, Florida limes (1955 crop), and citrus fruits (1954-55 crop); condition of hay, pasture, citrus fruits (1955-56 crop), California grapes, and miscellaneous fruits and nuts; milk production; grain fed per milk cow; poultry and egg production. Also for 1954 crops, acreage, yield per acre, and production of sugar beets, and sugarcane; value of production of sugarcane and U.S. value of production of sugar beets; and production of beet and cane sugar, sugar beet pulp, and products of cane ground for sugar.

July 11—Stocks of corn for grain, wheat, oats, barley, rye, flaxseed, and soybeans on farms as of July 1; planted acreage of corn, winter wheat, spring wheat, oats, barley, flaxseed, rice, potatoes, sweet potatoes, dry edible beans, dry field peas, all sorghums, and sugar beets, acreage for harvest, indicated yield per acre as of July 1, and indicated production of corn, winter wheat, spring wheat, oats, barley, rye, flaxseed, rice, hay, potatoes, sweet potatoes, tobacco, sugar beets, sugarcane for sugar and seed, dry edible beans, dry field peas and hops; acreage grown alone for all purposes of soybeans; acreage for harvest of soybeans for beans, and all sorghums; indicated production of apples (commercial), peaches, pears, grapes, cherries, apricots, plums, prunes, almonds, filberts and walnuts, Florida limes (1955 crop), and citrus fruits (1954-55 crop); condition of pasture; citrus fruits (1955-56 crop), and miscellaneous fruits; milk production; poultry and egg production. Revised estimates of the 1954 peanut crop.

Aug. 10—Indicated yield per acre as of Aug. 1 and indicated production of corn, winter wheat, spring wheat, oats, barley, rye, flaxseed, rice, all sorghums for grain, hay, dry edible beans, dry field peas, soybeans for beans, peanuts picked and threshed, potatoes, sweet potatoes, tobacco, sugar beets, sugarcane for sugar and seed, broomcorn and hops; acreage

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of all sorghums for grain, peanuts picked and threshed, and broomcorn; indicated production of apples (commercial), peaches, pears, grapes, cherries, apricots, plums, prunes, almonds, walnuts, filberts and pecans; condition of pasture, citrus fruits (1955-56 crop) and miscellaneous fruits; milk production, grain fed per milk cow; poultry and egg production.

Sept. 9—Indicated yield per acre as of Sept. 1 and indicated production of corn, spring wheat, oats, barley, flaxseed, rice, all sorghums for grain, hay, dry edible beans, dry field peas, soybeans for beans, peanuts picked and threshed, potatoes, sweet potatoes, tobacco, sugar beets, sugarcane for sugar and seed, broomcorn and hops; indicated production of apples (commercial), peaches, pears, grapes, plums, prunes, apricots, cranberries, almonds, walnuts, filberts, and pecans; condition of pasture, citrus fruits (1955-56 crop) and miscellaneous fruits; milk production; poultry and egg production.

Oct. 11—Stocks of corn for grain, wheat, oats, barley, sorghum grain, rye, flaxseed and soybeans on farms as of Oct. 1; indicated yield per acre and indicated production of corn, all wheat, spring wheat, oats, barley, flaxseed, rice, all sorghums for grain, hay, dry edible beans, soybeans for beans, peanuts picked and threshed, potatoes, sweet potatoes, tobacco, sugar beets, sugarcane for sugar and seed, and hops; indicated production of apples (commercial), peaches, pears, grapes, plums, prunes, cranberries, citrus fruits (1955-56 crop), almonds, walnuts, filberts and pecans; condition of pasture, citrus fruits (1955-56 crop), and miscellaneous fruits; milk production; grain fed per milk cow; poultry and egg production.

Nov. 10—Indicated yield per acre as of Nov. 1 and indicated production of corn, rice, all sorghums for grain, dry edible beans, soybeans for beans, peanuts picked and threshed, potatoes, sweet potatoes, tobacco, sugar beets, sugarcane for sugar and seed; production of apples (commercial), pears, grapes, cranberries, citrus fruits (1955-56 crop), almonds, walnuts, filberts and pecans; condition of pasture, citrus fruits (1955-56 crop), and olives; milk production; poultry and egg production.

Dec. 9—Indicated production of citrus fruits (1955-56 crop); milk production; grain fed per milk cow; poultry and egg production.

Dec 19—Annual summary of acreage, yield per acre, production of all crops.

Dec. 19—Season average prices and value of production of principal crops.

Dec. 21—Seeded acreage and indicated production of winter wheat, and acreage and condition of rye for harvest in 1956.

OTHER REPORTS CONCERNING CROP PRODUCTION

Wheat stocks in interior mills, elevators and warehouses, in merchant mills, and total stocks in all positions on farms and off farms; rye, corn, oats, barley and sorghum grain stocks in all positions: 3 p.m., Jan. 21, April 22, July 22 and Oct. 21.

Soybean and flaxseed stocks in all positions: 3 p.m., Jan. 28, April 28, July 28 and Oct. 28.

Peanut stocks and processing: Jan. 24, Feb. 24, March 24, April 25, May 24, June 24, July 25, Aug. 24, Sept. 23, Oct. 24, Nov. 25, Dec. 23.

Potato stocks: 3 p.m., Jan. 19.

Onion stocks: 3 p.m., Jan. 19.

Cabbage stocks: Jan. 10 and Dec. 9.

Hop stocks: March 21 and Sept. 21.

REPORTS ON LIVESTOCK

*(Released at Washington, D.C., at 12 o'clock Noon, E.S.T.)

Jan. 13—Sheep and lambs on feed for market Jan. 1.

Jan. 17—Cattle on feed for market Jan. 1.

*Feb. 14—Number and value of livestock, including poultry, on farms Jan. 1, 1955.

Feb. 17—Calf crop.

Feb. 25—Wool production and income, 1954.

March 2—Mohair production and income, 1954.

March 11—Early lamb crop as of March 1 (10 states).

April 14—Cattle on feed for market April 1.

April 28—Farm production and income from meat animals, 1954.

May 11—Development of early lamb crop, as of May 1.

*June 22—Spring pig crop and fall farrowings indicated by breeding intentions as of June 1.

July 14—Cattle on feed for market July 1.

July 28—U.S. lamb crop, 1955. Number and percentage of breeding ewes.

Aug. 4—Production of shorn wool, 1955.

Oct. 17—Cattle on feed for market Oct. 1.

Nov. 10—Lamb feeding situation as of Nov. 1.

U.S. Corn Production, Yield & Acreage by States

Note: By calendar years, 000's omitted. **Source: USDA**

State—	Acreage, harvested— Average 1943-52	1953	1954	Yield per acre, bu.— Average 1943-52	1953	1954	Production, bu.— Average 1943-52	1953	1954
Maine	12	14	13	36.9	39.0	24.0	470	546	312
New Hampshire	13	15	15	42.1	43.0	43.0	557	645	645
Vermont	61	67	68	42.2	42.0	42.0	2,573	2,814	2,856
Massachusetts	38	35	36	44.0	46.0	46.0	1,672	1,610	1,656
Rhode Island	8	7	7	40.8	45.0	33.0	309	315	231
Connecticut	44	36	40	43.6	45.0	47.0	1,901	1,620	1,880
New York	648	664	704	39.6	44.0	42.0	25,627	29,216	29,568
New Jersey	187	190	200	45.2	54.5	48.0	8,442	10,355	9,600
Pennsylvania	1,340	1,347	1,374	43.8	42.0	46.0	58,603	56,574	63,204
Ohio	3,536	3,531	3,743	49.7	55.0	62.0	175,990	194,205	232,066
Indiana	4,510	4,693	4,787	49.5	51.5	53.5	223,198	241,690	256,104
Illinois	8,763	9,358	9,077	51.6	54.0	49.5	453,683	505,332	449,312
Michigan	1,669	1,764	1,887	37.5	45.5	44.0	62,532	80,262	83,028
Wisconsin	2,562	2,558	2,686	45.6	58.5	57.5	116,546	149,643	154,445
Minnesota	5,464	5,598	5,486	42.2	48.0	50.5	230,537	268,704	277,043
Iowa	10,746	11,180	10,286	50.2	53.0	52.5	540,655	592,540	540,015
Missouri	4,202	4,072	4,194	35.6	33.5	16.5	149,527	136,412	69,201
North Dakota	1,191	1,133	1,224	21.4	22.0	21.0	25,407	24,926	25,704
South Dakota	3,859	3,919	3,997	26.6	34.5	29.0	102,287	135,206	115,913
Nebraska	7,647	7,292	7,000	30.2	28.0	28.0	229,904	204,176	196,000
Kansas	2,790	2,366	2,082	25.2	21.5	19.0	69,868	50,869	39,558
Delaware	141	172	170	34.3	39.0	31.0	4,656	6,708	5,270
Maryland	460	453	458	40.5	45.0	41.0	18,631	20,385	18,778
Virginia	1,085	920	911	36.2	27.0	33.0	38,619	24,840	30,063
West Virginia	279	195	201	38.1	37.0	45.0	10,507	7,215	9,045
North Carolina	2,220	2,159	2,116	27.9	27.0	24.0	61,914	58,293	50,784
South Carolina	1,422	1,187	1,116	18.5	19.5	10.5	26,280	23,146	11,718
Georgia	3,222	2,910	2,823	14.0	20.0	10.5	44,973	58,200	29,642
Florida	640	599	575	12.3	16.5	16.0	7,830	9,884	9,200
Kentucky	2,279	2,003	2,143	33.4	35.5	31.0	75,854	71,106	66,433
Tennessee	2,204	1,793	1,883	27.6	29.5	21.5	60,606	52,894	40,484
Alabama	2,671	2,173	2,216	16.8	22.0	13.0	44,784	47,806	28,808
Mississippi	2,209	1,497	1,502	18.7	22.0	17.0	40,967	32,934	27,234
Arkansas	1,324	697	697	19.5	17.0	12.0	25,414	11,849	8,364
Louisiana	934	546	617	17.8	20.0	21.0	16,170	10,920	12,957
Oklahoma	1,214	458	321	18.2	14.0	12.5	21,783	6,412	4,012
Texas	3,026	2,053	2,074	17.2	16.5	16.0	51,266	33,874	33,184
Montana	178	167	194	15.2	19.0	14.5	2,723	3,173	2,813
Idaho	31	48	53	49.0	55.0	61.0	1,558	2,640	3,233
Wyoming	63	55	50	16.9	20.0	17.5	1,031	1,100	875
Colorado	631	401	373	22.9	32.0	25.0	14,030	12,832	9,325
New Mexico	117	85	85	14.6	15.0	15 5	1,678	1,275	1,318
Arizona	31	34	36	12.4	15.0	16.0	389	510	576
Utah	28	39	37	33.0	41.0	39.0	929	1,599	1,443
Nevada	2	4	3	33.5	40.0	40.0	78	160	120
Washington	20	21	27	52.1	60.0	57.0	1,028	1,260	1,539
Oregon	30	24	28	39.3	45.0	50.0	1,171	1,080	1,400
California	70	76	160	33.1	36.0	48.0	2,308	2,736	7,680
U. S.	85,820	80,608	79,875	35.7	39.6	37.1	3,057,464	3,192,491	2,964,639

This table covers corn for all purposes, including hogged and siloed corn, and that cut and fed without removing the ears, as well as that husked and snapped for grain. The yield for grain, with an allowance for varying yields of corn for other purposes, is applied to the total acreage to obtain an equivalent production expressed in terms of grain.

U.S. Acreage Sown to Winter Wheat by States

Note: Acreage sown in fall, 000's omitted **Source: USDA**

State—	Acreage seeded† Crops of 1943-52	Crop of— 1953	1954	1955	Crop of '55 as % of crop of 1954	Production, bu. Crops of 1943-52	Crop of— 1953	1954	1955*
New York	368	479	340	323	95	9,283	13,894	10,065	9,044
New Jersey	98	107	85	76	89	1,660	2,025	1,512	1,444
Pennsylvania	908	884	743	676	91	19,115	20,688	13,796	16,224
Ohio	2,103	2,409	1,783	1,640	92	47,616	69,136	48,510	41,000
Indiana	1,520	1,665	1,315	1,184	90	30,983	46,144	39,711	28,416
Illinois	1,562	2,165	1,580	1,564	99	29,851	57,794	44,921	35,972
Michigan	1,128	1,524	1,010	919	91	28,177	44,692	30,000	25,732
Wisconsin	33	32	29	26	90	705	720	658	624
Minnesota	102	74	45	35	78	1,620	1,414	532	630
Iowa	220	145	117	88	75	3,768	2,665	1,710	1,760
Missouri	1,536	1,702	1,481	1,614	109	22,932	41,028	40,114	32,280
South Dakota	346	519	368	397	108	4,272	6,360	4,604	4,764
Nebraska	4,170	4,379	3,678	3,531	96	74,187	85,005	81,200	74,151
Kansas	14,202	14,315	11,738	10,799	92	203,970	144,662	176,208	151,186
Delaware	66	54	37	32	86	1,154	994	822	576
Maryland	340	269	210	185	88	6,154	5,268	4,972	3,700
Virginia	458	393	299	269	90	7,667	7,518	6,936	5,380
West Virginia	89	67	57	56	98	1,366	1,268	1,152	952
North Carolina	455	449	364	364	100	6,915	8,446	7,436	7,280
South Carolina	200	215	168	141	84	2,958	3,636	3,081	2,538
Georgia	165	173	121	108	89	2,122	2,960	2,072	1,728
Kentucky	401	421	316	284	90	4,768	6,776	5,508	3,260
Tennessee	312	353	261	243	93	4,098	5,795	3,959	3,645
Alabama	16	26	30	43	143	211	462	528	774
Mississippi	16	66	45	35	78	233	1,192	784	700
Arkansas	41	115	84	80	95	396	1,634	1,638	1,280
Oklahoma	6,311	6,966	5,294	4,923	93	75,634	70,776	70,770	44,307
Texas	6,018	5,438	4,840	4,308	89	57,221	23,035	30,894	21,540
Montana	1,628	1,578	1,531	1,699	111	27,679	28,602	33,605	32,281
Idaho	850	932	764	802	105	19,278	21,897	19,062	15,446
Wyoming	255	361	289	266	92	4,378	5,338	2,652	3,192
Colorado	2,623	3,902	3,005	3,005	100	38,977	42,191	15,790	13,522
New Mexico	564	611	507	472	93	3,063	515	400	2,360
Arizona	28	25	23	25	109	591	598	588	600
Utah	296	362	282	276	98	5,259	5,814	4,185	4,968
Nevada	6	5	4	2	50	133	104	81	56
Washington	2,151	2,168	1,973	1,795	91	53,592	61,732	63,988	53,850
Oregon	820	1,024	788	749	95	19,813	28,044	21,033	20,223
California	647	626	480	408	85	11,178	11,286	9,260	7,752
U.S.	53,070	56,998	46,084	43,442	94.3	832,977	881,608	790,737	679,137

*Indicated Dec. 1, 1954. †Total acreage seeded for all purposes.

U.S. Winter and Spring Wheat Crop and Acreage

Note: By calendar years, 000's omitted. **Source: USDA**

State—	Acreage, harvested— Average 1943-52	1953	1954	Yield per acre, bu.— Average 1943-52	1953	1954	Production, bu.— Average 1943-52	1953	1954
New York	356	471	330	25.7	29.5	30.5	9,283	13,894	10,056
New Jersey	71	81	54	23.2	25.0	28.0	1,660	2,025	1,512
Pennsylvania	886	862	707	21.5	24.0	28.0	19,115	20,688	19,796
Ohio	2,056	2,384	1,764	22.9	29.0	27.5	47,616	69,136	48,510
Indiana	1,470	1,648	1,302	20.8	28.0	30.5	30,983	46,144	39,711
Illinois	1,476	2,122	1,549	19.8	27.0	29.0	29,851	57,294	44,921
Michigan	1,114	1,515	1,000	25.0	29.5	30.0	28,177	44,692	30,000
Wisconsin	31	30	28	22.7	24.0	23.5	705	720	658
Minnesota	86	69	38	19.1	20.5	14.0	1,620	1,414	532
Iowa	190	130	95	19.2	20.5	18.0	3,768	2,665	1,710
Missouri	1,318	1,578	1,294	17.2	26.0	31.0	22,932	41,028	40,114
South Dakota	279	424	297	14.8	15.0	15.5	4,272	6,360	4,604
Nebraska	3,783	3,778	3,060	19.4	22.5	20.0	74,187	85,005	61,200
Kansas	12,707	11,573	10,069	15.9	12.5	17.5	203,970	144,662	176,208
Delaware	62	51	35	18.7	19.5	23.5	1,154	994	822
Maryland	316	257	195	19.4	20.5	25.5	6,154	5,268	4,972
Virginia	426	358	272	18.1	21.0	25.5	7,667	7,518	6,936
West Virginia	74	59	48	18.4	21.5	24.0	1,366	1,268	1,152
North Carolina	416	412	338	16.7	20.5	22.0	6,915	8,446	7,436
South Carolina	193	202	158	15.4	18.0	19.5	2,958	3,636	3,081
Georgia	152	160	112	14.2	18.5	18.5	2,122	2,960	2,072
Kentucky	301	308	216	15.9	22.0	25.5	4,768	6,776	5,508
Tennessee	288	305	214	14.4	19.0	18.5	4,098	5,795	3,959
Alabama	13	21	24	16.1	22.0	22.0	211	462	528
Mississippi	11	45	28	21.7	26.5	28.0	233	1,192	784
Arkansas	27	86	63	14.4	19.0	26.0	396	1,634	1,638
Oklahoma	5,534	5,898	4,718	13.3	12.0	15.0	75,634	70,776	70,770
Texas	4,628	2,710	3,252	11.8	8.5	9.5	57,221	23,035	30,894
Montana	1,375	1,362	1,430	20.2	21.0	23.5	27,679	28,602	33,605
Idaho	791	811	706	24.5	27.0	27.0	19,278	21,897	19,062
Wyoming	228	314	204	19.1	17.0	13.0	4,378	5,338	2,652
Colorado	2,142	2,722	1,579	18.4	15.5	10.0	38,977	42,191	15,790
New Mexico	307	103	80	8.7	5.0	5.0	3,063	515	400
Arizona	25	23	21	23.3	26.0	28.0	591	598	588
Utah	282	342	270	19.0	17.0	15.5	5,259	5,814	4,185
Nevada	5	4	3	26.7	26.0	27.0	133	104	81
Washington	1,941	2,024	1,882	27.5	30.5	34.0	53,592	61,732	63,988
Oregon	757	984	738	26.2	28.5	28.5	19,813	28,044	21,033
California	596	594	463	18.7	19.0	20.0	11,178	11,286	9,260
U. S.	46,716	46,820	38,636	17.7	18.8	20.5	832,977	881,608	790,737

SPRING WHEAT OTHER THAN DURUM

State—	Acreage, harvested— Average 1943-52	1953	1954	Yield per acre, bu.— Average 1943-52	1953	1954	Production, bu.— Average 1943-52	1953	1954
Wisconsin	57	40	31	23.7	22.5	25.0	1,368	900	775
Minnesota	1,010	914	658	17.1	16.0	14.0	17,321	14,624	9,212
Iowa	12	7	19	17.9	18.0	18.0	221	126	342
North Dakota	7,542	8,115	6,492	14.1	10.5	10.0	105,568	85,208	64,920
South Dakota	2,999	2,956	2,306	11.9	8.5	9.5	35,541	25,126	21,907
Nebraska	67	78	47	14.0	12.5	9.0	917	975	423
Montana	3,310	4,512	3,068	14.9	19.0	14.0	48,904	85,728	42,952
Idaho	513	384	486	31.1	30.0	33.5	15,873	26,520	16,281
Wyoming	86	99	51	17.2	15.0	13.0	1,482	1,485	663
Colorado	122	91	43	18.4	18.5	16.5	2,227	1,684	710
New Mexico	20	17	18	14.6	13.5	13.5	296	230	243
Utah	76	99	79	32.6	33.0	30.0	2,477	3,267	2,370
Nevada	13	13	9	28.1	28.0	27.0	366	364	243
Washington	659	915	302	22.3	24.5	28.0	14,851	22,418	8,456
Oregon	223	236	140	24.1	26.5	28.5	5,329	6,254	3,990
U. S.	16,724	18,976	13,749	15.2	14.5	12.6	253,044	274,909	173,487

DURUM WHEAT

State—	Acreage, harvested— Average 1943-52	1953	1954	Yield per acre, bu.— Average 1943-52	1953	1954	Production, bu.— Average 1943-52	1953	1954
Minnesota	51	14	12	15.7	9.5	7.0	780	133	84
North Dakota	2,268	1,728	1,244	14.1	7.0	4.0	31,547	12,096	4,976
South Dakota	266	123	71	12.2	6.0	7.0	3,159	738	497
U. S.	2,585	1,865	1,327	13.9	7.0	4.2	35,486	12,967	5,557

•Dec. 22—Fall pig crop of 1955, and spring farrowings in 1956 indicated by breeding intentions.

Livestock slaughter—Number of head, average live weight and total live weight of cattle, calves, hogs, sheep and lambs slaughtered in commercial plants by states, meat production by species and lard production for the U.S.: Jan. 31, Feb. 28, March 31, April 29, May 31, June 30, July 29, Aug. 31, Sept. 30, October 31, Nov. 30, Dec. 30.

Stocker and feeder cattle and sheep received in several corn belt states. (Issued about 15th of each month in the weekly market news).†

Inspected stocker and feeder shipments from public markets. (Issued about 22nd of each month in the weekly market news).†
(Released at Denver, Colo.)

June 13—Shipments of cattle into blue stem pastures in the Flint Hills and Osage Areas as of June 1.

Condition of western ranges, cattle and sheep—Jan. 11, Feb. 10, March 10, April 11, May 11, June 10, July 11, Aug. 10, Sept. 15, Oct. 14, Nov. 16, Dec. 15.

REPORTS ON POULTRY AND EGGS

Egg production—Number of layers on hand during month, eggs per 100 layers, total eggs produced, issued with Monthly Crop Production Report, also the number of layers and rate of egg production per 100 layers as of first of month by geographic areas and U.S.

Intended purchases of baby chicks—Issued with crop production report, Feb. 10.

Number of chicks and young chickens of current year's hatchings on hand as of first of month, issued with crop production reports, April 11, May 10, June 10 and July 11.

Potential layers on farms as of first of month, issued with crop production reports, Jan. 10, Feb. 10, Aug. 10, Sept. 9, Oct. 11, Nov. 10 and Dec. 9.

Composition of farm flocks Oct. 1, issued with crop production report Oct. 11.

Turkeys and chickens tested by official state agencies — About 12th of each month.†

Hatchery production—Salable chicks hatched and eggs in incubators and chicks booked as of first of month; poults hatched and turkey eggs in incubators as of first of month: Jan. 14, Feb. 15, March 15, April 15, May 16, June 15, July 15, Aug. 15, Sept. 15, Oct. 14, Nov. 16, Dec. 15.

Liquid and dried egg production—Production, by classes, and utilization during preceding month: 25th of each month.†

Canned poultry—Jan. 3, Feb. 1, March 1, April 1, May 2, June 1, July 1, Aug. 1, Sept. 1, Oct. 3, Nov. 1, Dec. 1.

Other reports pertaining to poultry and eggs:

Jan. 14—Turkeys raised, light and heavy breeds, indicated by reported intentions as of Jan. 1.

Jan. 17—Chicks placed weekly in important broiler areas, revised estimates 1954.

Jan. 25—Turkey breeder hens, light and heavy breeds, on farms and ranches Jan. 1.

Jan. 31—Commercial broiler production in important broiler states.

Feb. 14—Number and value of chickens on farms Jan. 1 and number and value of turkeys on farms Jan. 1, issued with livestock on farms Jan. 1.

Feb. 15—Hatchery chick and poult production; revisions of monthly hatchery production in 1954, issued with hatchery report.

Feb. 25—Monthly egg production, 1953 and 1954.

March 11—Young chickens and potential layers on farms in 1953 and 1954.

March 25—Farm production and income from turkeys, 1953 and 1954.

April 5—Farm production and income from chickens and eggs, including commercial broiler production, 1953 and 1954.

July 29—Chickens raised on farms, preliminary estimates, 1955.

Aug. 23—Turkey production: Number of light and heavy breed turkeys raised indicated by reports from turkey growers as of Aug. 1.

REPORTS ON MILK AND DAIRY PRODUCTS

Dairy production—Released about 12th of each month. Includes milk production per cow 1st of month by states, milk production on farms for preceding month, U.S. and selected states, amount of grain fed per milk cow as of first of every other month, and dairy pasture condition from April through November. Data are released slightly earlier in monthly crop production report. Also includes special summaries of data relating to farm dairying, such as seasonal average condition of dairy pastures in November issue.

Other reports on dairy and milk products:

Jan. 26—Rations fed to milk cows, 1954.

Feb. 14—Milk production on farms and statistics of dairy plant products, 1954.

March 17—Interstate movement of dairy cattle in northeastern states.

April 14—Farm production, disposition and income from milk, 1954.

June 2—Roughage fed to milk cows, winter, 1954-55.

July 28—Number of milk cows on farms in June.

Dairy marketing—
Fluid milk and cream report: Jan. 17, Feb. 16, March 16, April 15, May 16, June 16, July 18, Aug. 16, Sept. 16, October 17, Nov. 16, Dec. 14.
Evaporated, condensed and dried milk reports: 30th of each month.†
Evaporated and condensed milk, wholesale grocers' stocks: Jan. 21, April 21, July 21, Oct. 21.
Preliminary manufactured dairy products report, 1954: September, 1955.
Final manufactured dairy products report, 1954: December, 1955.
(Dairy reports listed below released at 1300-A New Post Office Bldg., Chicago, Ill.)—
Weekly creamery butter production: Tuesday of each week.
Weekly American cheese production: Wednesday of each week.
Weekly Wisconsin warehouse cheese report: Thursday of each week.
Monthly creamery butter and American cheese production: Detail, by regions, 25th of each month.†
Monthly ice cream production report: Estimated production by states, 20th of each month.†
Milk prices paid at creameries and cheese plants, by states about 29th of each month simultaneously with agricultural price reports.

REPORTS ON AGRICULTURAL PRICES
(Released at 3 p.m.)

Prices received by farmers for principal crops and livestock products, index numbers of prices received by farmers, indexes of prices paid by farmers for articles bought and parity prices: Jan. 28, Feb. 28, March 30, April 29, May 27, June 30, July 29, Aug. 30, Sept. 30, Oct. 28, Nov. 30 and Dec. 30.

REPORTS ON MEAT SCRAPS AND TANKAGE

Production of meat scraps and tankage—Jan 31 and Aug. 1.

†Unless Saturdays, Sundays or holidays conflict, in which case release is on the next business day.

Rules Governing Feed Trade

The following rules are used by the Grain & Feed Dealers National Assn. as the basis of settlement for disputes between members. They are generally recognized throughout the industry in arbitrating any disagreements.

Rule 1. Trade: It shall be the duty of both buyer and seller to include in their original articles of trade, however conducted, the following specifications:

Date of contract;
Number of sacks, tons or cars;
Kind and grade of feed;
Price;
Rate basing point;
Time of shipment;
Terms of payment, sight draft unless otherwise specified.

Rule 2. Confirmation: (a) It shall be the duty of both buyer and seller, not later than the close of business day following date of trade, to mail, each to the other, a confirmation in writing (the buyer a confirmation of purchase and the seller a confirmation of sale), setting forth the specifications as agreed upon in the original articles of trade. Upon receipt of said confirmation the parties thereto shall carefully check all specifications named therein and, upon finding any differences, shall immediately notify the other party to the contract, by wire or telephone, and confirm in writing, except in the case of manifest errors and differences of minor character, in which event notice by return mail will suffice.

(b) When a trade is made through a broker, it shall be the duty of the broker, not later than the close of business day following date of trade, to send a written confirmation to each of the principals (to the buyer a confirmation of sale and to the seller a confirmation of purchase) setting forth the specifications of the trade as made by him. Upon receipt of said confirmation, the parties thereto shall carefully check all specifications named therein and, upon finding any differences, shall immediately notify the other party to the contract by wire or telephone, and confirm in writing. In default of such notice the contract shall be filled in accordance with the terms of the confirmation issued by the broker.

Rule 3. Carload: A carload shall be not less than the minimum weight prescribed by the Interstate Commerce Commission at the time of sale.

In the event the minimum weight prescribed by the Interstate Commerce Commission is increased between the date of sale and date of shipment, the seller shall deliver the minimum weight prescribed by law at that time, any overage from the original contract to be invoiced at market price on date of shipment.

When feed is sold by the car or carloads and no tonnage is specified in the contract, any disputes or adjustments in case of cancellation or nondelivery shall be based on 30-ton cars.

Rule 4. Bills of Lading: Bills of lading attached either to invoices or to drafts shall be original and negotiable and in conformity with the specifications of the contract on which the shipment is to apply, and shall be signed in accordance with the rules of carriers. Any loss resulting from irregular or incorrect bills of lading shall be paid by the seller.

Rule 5. Demurrage and/or Additional Charges: The seller shall be liable for any demurrage, and/or additional charges accruing on feed billed to "shipper's order," when such charges can be shown to have accrued by reason of the inability of the buyer, through act of the seller or his agent, to get possession of the bill of lading whenever said bill of lading is necessary to furnish disposition.

Rule 6. Shortage, Damage and/or Overcharge: (a) All claims for shortage and/or damage shall be made by the receiver within fifteen (15) days after arrival, and must be accompanied by paid expense bill with railroad agent's notations as to damages; likewise condition of equipment and seals.

Rule 7. Origin of Feed: (a) A sale of feedstuffs shall not of necessity mean that the feedstuffs will originate at the home address of the seller, but must be of domestic origin unless otherwise specified at time of sale.

(b) A sale of feedstuffs contemplates shipment from mills on or after the date of sale, unless otherwise specified.

Rule 8. Privileges: In all delivered sales to any terminal markets the point specified shall be considered as a rate basis only and not necessarily final destination of goods, and shipment shall be made to any point and via any line open for business designated by the buyer which is reached by lake, or lake-and-rail lines during the season of navigation, or by all-rail trunk lines at other times, provided shipment is made within contract time, and provided further, that such routing is in accord with transit arrangements of shipper.

Rule 9. Time of Shipment: (a) Immediate or rush shipment shall mean shipment within three (3) calendar days from the date of receipt of shipping instructions, including day instructions are received by seller.

(b) Quick shipment shall mean shipment within seven (7) calendar days from date or receipt of shipping instructions, including day instructions are received by seller.

(c) Prompt shipment shall mean shipment within fourteen (14) calendar days from the date of receipt of shipping instructions, including day instructions are received by seller.

(d) **Unspecified Shipment:** Where shipment is not specified prompt shipment is understood.

(e) Loaded, spot, instant or on track shall mean that the goods are actually loaded and ready for billing, and the lading must be dated on the day of sale.

(f) In transit shall mean that the lading must be dated at least one day prior to date of sale.

(g) **Deferred Shipment:** In the purchase and sale of feed for deferred shipment following specifications shall govern:

Where a specific number of days is

Individual Feeds as Percentage of Total Concentrate Ration Fed to Milk Cows in Herds Kept by Dairy Reporters, by States, 1954*

(Per cent of total)

State and division	—Small grains—				Oil seeds and oil seed meals				Other millfeeds			
	Corn	Oats	Barley	Wheat	Cottonseed meal	Cottonseed	Linseed meal	Soybeans or soybean meal	Gluten feed or meal	Wheat bran, shorts	Commercial mixed feeds	Misc. other
Maine	1	4	..	..	..	..	..	..	..	..	93	2
N. H.	..	..	..	..	..	..	..	..	..	..	99	1
Vermont	..	1	..	..	..	..	..	..	..	1	96	2
Mass.	..	..	..	..	..	..	..	..	..	..	96	4
Conn.	..	..	..	..	..	..	..	..	..	..	96	4
N. Y.	8	15	2	..	..	..	1	1	2	2	62	6
N. J.	12	6	2	..	..	..	1	1	1	2	63	11
Pa.	28	21	6	2	..	..	1	2	1	2	35	2
N. Atl.	13.4	13.7	2.8	1.2	.2	..	.6	.8	1.0	1.7	59.9	4.7
Ohio	61	22	1	1	..	..	1	2	..	2	8	2
Ind.	63	22	..	1	1	..	..	2	..	1	7	3
Ill.	56	30	1	..	..	..	1	1	..	2	7	2
Mich.	44	36	3	2	..	..	1	3	..	1	6	4
Wis.	33	43	1	..	..	..	5	1	1	5	8	3
E. N. Cent.	46.6	33.8	1.2	.5	.2	..	2.3	1.6	.3	3.0	7.5	3.0
Minn.	44	40	2	..	..	..	1	1	..	3	7	2
Iowa	66	25	..	..	..	..	1	2	..	1	5	1
Mo.	27	16	6	1	3	1	..	1	1	6	35	3
N. D.	10	75	10	1	..	..	..	..	..	..	1	3
S. D.	31	63	2	..	..	..	..	1	..	1	1	1
Neb.	64	20	3	..	1	..	..	1	..	2	6	3
Kansas	29	19	5	..	4	..	..	1	..	5	17	17
W.N.Cent.	43.1	31.8	3.1	.4	.9	.2	.6	1.3	.1	3.2	11.7	3.6
Del.	43	14	12	..	1	..	..	1	..	2	22	5
Md.	36	14	9	1	1	..	1	2	..	3	29	4
Va.	19	9	9	2	1	1	1	1	..	3	47	7
W. Va.	21	7	3	1	..	..	..	1	..	1	64	2
N. C.	31	22	5	2	5	2	..	1	..	2	28	2
S. C.	14	22	6	..	11	..	..	1	..	..	39	7
Georgia	19	13	2	..	10	..	1	1	..	1	39	14
Florida	3	1	..	..	5	..	..	..	..	3	55	33
S. Atl.	21.9	11.5	5.3	1.0	6.8	.5	.5	.7	.2	2.4	41.2	11.0
Ky.	55	6	3	2	1	..	..	3	1	3	21	5
Tenn.	48	12	2	3	5	2	..	1	..	1	24	3
Ala.	44	13	..	1	10	2	..	1	..	..	23	6
Miss.	34	5	..	..	12	3	..	2	..	..	43	1
Ark.	10	8	1	2	8	2	1	..	..	7	59	2
La.	19	7	..	..	7	3	1	..	..	2	53	8
Okla.	11	24	2	1	5	1	..	1	..	7	40	8
Texas	14	14	1	..	9	1	..	..	1	3	47	10
S. Cent.	30.2	11.5	1.4	.9	6.5	1.4	.2	1.1	.4	3.1	37.4	5.8
Mont.	1	47	35	3	1	..	..	..	..	5	4	4
Idaho	4	36	25	13	..	..	..	..	..	3	14	5
Wyo.	4	32	41	1	1	..	..	1	..	1	17	2
Colo.	20	19	27	1	2	..	1	1	..	6	14	9
Ariz.	..	1	20	..	2	..	..	..	..	1	69	7
Utah	1	13	49	4	1	..	..	..	..	3	23	6
Wash.	1	12	4	1	1	..	1	..	..	6	67	7
Oregon	1	10	7	2	1	..	..	..	..	3	73	3
Calif.	..	2	7	..	2	1	1	..	..	5	67	15
West	2.5	10.6	12.9	1.9	1.8	.3	.4	.3	.2	4.5	54.2	10.6
U. S.	31.7	23.1	3.3	.8	1.6	.3	1.0	1.1	.4	2.9	28.7	5.1

*Based on reports of rations fed on May 1 and Nov. 1. Several minor states not shown separately are included in regional and U.S. averages.

U.S. Formula Feed Industry Statistics—1947, 1939

Note: These figures cover establishments engaged primarily in manufacturing prepared feeds for animals and fowls. Prepared feeds include those made and milled from grains; animal, marine and vegetable proteins; alfalfa meals, bone meal, calcium carbonate, manganese, and other mineral supplements; fish liver oils, distillers solubles, and other vitamin supplements. Some of the establishments in this industry mill the grain they use, and others purchase all their materials. Mills primarily engaged in cracking grains, now included in this industry, were included in the Flour and Meal Industry in previous years. **Source: U.S. Bureau of the Census**

(Money figures and man-hours in millions)

Item—	1947	1939
Number of establishments	2,689	1,383
All employees:		
Number (average for the year)	55,347	24,177
Salaries and wages (total)	$143.3	31.8
Production and related workers:		
Number (average for the year)	40,266	15,401
Man-hours (total)	92.8	n.a.
Wages (total)	$93.6	$16.3
Value added by manufacture*	$394	$99
Cost of materials, fuel, electricity and contract work	$1,736	$303
Value of shipments†	$2,130	$402
Expenditures for new plant and equipment	$34.8	n.a.

n.a. Not available.

*For 1947, value of shipments less cost of materials, fuel, electricity, and contract work. For 1939, value of production less cost of materials, fuel, electricity, and contract work.

†Value of production for 1939.

‡Prepared feeds amounted to 92% of the total value of shipments of the industry in 1947.

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not specified in contract, but the time is referred to as first half or second half of a given month, it shall be understood that up to midnight of the 15th shall be considered the first half (this including February), the remainder of the month to be considered as second half.

(h) **Season Shipment:** Season shipments shall mean shipment any time, at the seller's option, between the date of sale and Dec. 31, of the current year, inclusive.

(i) **Weekly Shipments:** First week in .....; second week in.....; etc., shall be construed as meaning:

First to seventh day inclusive.
Eighth to fourteenth day inclusive.
Fifteenth to twenty-first day inclusive.
Twenty-second to last day of month inclusive.

The fourth week in any month may consist of from seven to ten days.

First calendar week in.....; second calendar week in.....; etc., shall be construed as meaning the respective weeks as shown on the calendar. A calendar week may consist of from one to seven days.

(j) **Scattered shipment during any contract period:** The term "scattered shipment" is meaningless unless specifically qualified at the time of sale.

Rule 10. Evidence of Shipping Date: (a) On carload shipments, the date shown by the railroad agent's signature on a properly executed and signed bill of lading shall be the governing factor as to date of shipment, unless conclusive evidence to the contrary can be shown.

(b) On truckloads, dray tickets or properly signed receipts by the truck transportation company shall be accepted as evidence of the date of shipment.

(c) Dray tickets or shipping receipts when dated and signed by railroads in terminal markets shall also be accepted as evidence of shipment.

(d) In terminal markets, where the loading is made on a railroad line other than the one which will perform the road haul, and line haul carrier will not sign lading until the car is received at its rails, a switching order carrying full shipping instructions, given to and duly signed and dated by the authorized agent of the carrier on whose line the car is loaded, shall be evidence that the car is loaded within the life of the contract except that when the last day of the contract period falls on Saturday, and shipment is made from a station at which the carrier has no agent on duty on Saturday, Seller shall be deemed to have fulfilled his obligation if the bill of lading is signed not later than noon of the next business day.

Rule 11. Shipping Directions: (a) Unless otherwise agreed in the contract all sales are understood to be for shipment at Seller's option at any time during time of shipment specified or provided for in contract.

(b) Shipping directions on sales for spot, immediate or quick shipment, or for shipment within less than fourteen (14) days, must be furnished by Buyer at the time contract is made; and if so furnished, Seller shall make shipment within time of shipment specified or provided for in contract.

(c) Shipping directions on sales for prompt shipment must be furnished by Buyer as follows: If not demanded by Seller, shipping directions must be furnished within fourteen (14) days from making of contract, and if demanded by Seller at any time at or after making of contract shipping directions must be furnished within three (3) days after such demand; and if so furnished, Seller shall make shipment within fourteen (14) days after receipt of shipping directions.

(d) Shipping directions on sales for shipment within fourteen (14) days or more but not more than thirty-one (31) days from making of contract must be furnished by Buyer as follows: If not demanded by Seller, shipping directions must be

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Formula Feed Industry, General Statistics, by Divisions and States—1947

Note: Dollars and man-hours, 000's omitted. These figures cover establishments engaged primarily in manufacturing formula feeds for animals and fowls. **Source: U.S. Bureau of the Census**

Industry, division and state	Number of establishments	All employees: Number (average for the year)	All employees: Salaries and wages, total	Production & related workers: Number (average for the year)	Production & related workers: Man-hours total	Production & related workers: Wages, total	Value added by manufacture	Cost of materials, fuel, electricity and contract work	Value of products shipped	Expenditures for new plant and equipment
Prepared animal feeds, total*	**2,689**	**55,347**	**$143,301**	**40,266**	**92,751**	**$93,579**	**$394,236**	**$1,736,027**	**$2,130,263**	**$34,791**
New England	65	1,870	4,978	1,435	3,186	3,461	15,200	88,900	104,100	1,435
Middle Atlantic	378	8,298	24,818	6,104	14,104	16,810	72,327	382,613	454,940	3,899
New York	147	5,056	16,528	3,654	8,334	11,146	51,032	280,409	331,441	2,824
New Jersey	55	932	2,456	686	1,565	1,680	6,906	25,385	32,291	377
Pennsylvania	176	2,310	5,834	1,764	4,205	3,984	14,389	76,819	91,208	698
East North Central	551	11,828	32,547	7,219	16,163	17,910	81,239	357,748	438,987	7,041
Ohio	137	3,107	8,537	2,356	5,387	6,061	23,853	132,046	155,899	1,536
Indiana	126	1,862	4,651	1,311	2,953	3,253	11,408	65,416	76,284	1,142
Illinois	127	5,407	15,192	2,449	5,229	5,892	36,202	113,940	150,142	3,288
West North Central	694	10,061	24,668	7,486	17,990	17,214	76,118	256,389	332,507	8,091
Minnesota	153	1,747	4,510	1,317	2,966	3,117	16,112	56,923	73,035	1,422
Iowa	151	2,091	4,995	1,363	3,255	3,100	17,581	48,632	66,213	1,208
Missouri	114	2,725	6,633	2,018	4,799	4,542	22,188	89,321	111,509	2,065
South Atlantic	234	5,732	12,562	4,417	10,339	8,230	33,570	162,926	196,496	3,082
Virginia	49	1,095	2,346	772	1,806	1,411	5,813	31,650	37,463	721
North Carolina	57	1,395	2,870	1,163	2,645	2,002	8,227	37,739	45,966	498
South Carolina	16	314	608	259	615	429	1,692	8,500	10,192	76
Georgia	33	915	1,867	726	1,678	1,164	5,495	22,737	28,232	367
East South Central	110	4,173	9,085	3,322	7,803	6,050	27,345	135,502	162,847	2,681
Kentucky	28	584	1,396	475	1,098	1,013	3,341	19,439	22,780	216
Tennessee	53	2,124	4,289	1,609	3,692	2,582	15,534	66,714	82,248	1,022
Alabama	17	917	2,345	793	1,992	1,802	4,704	33,022	37,726	631
Mississippi	12	548	1,055	445	1,021	653	3,766	16,327	20,093	812
West South Central	207	5,175	11,386	4,038	9,419	7,596	28,564	127,905	156,569	2,297
Arkansas	35	594	1,163	461	1,010	725	3,244	19,382	22,626	356
Texas	114	3,235	7,145	2,435	5,759	4,727	18,591	81,386	99,977	1,427
Mountain	141	1,758	4,289	1,464	3,474	3,211	12,511	33,941	46,452	1,283
Idaho	19	195	482	159	369	360	1,324	5,217	6,541	162
New Mexico	11	117	234	102	226	191	908	781	1,689	16
Pacific	309	6,452	18,968	4,781	10,273	13,097	47,262	190,103	237,365	4,982
California	295	4,828	14,424	3,513	7,426	9,719	37,711	142,938	186,849	3,767

*For each producing state not shown separately in the table there are shown below the number of establishments and, in parentheses, the number of employees for states represented by three or more companies, when possible.

Prepared animal feeds: New England, Maine, 4 (61); New Hampshire, 6 (141); Vermont, 17 (628); Massachusetts, 27 (822); Connecticut, 11 (218); **East North Central,** Michigan, 62 (518); Wisconsin, 92 (934); **West North Central,** North Dakota, 12 (31); South Dakota, 16 (441); Nebraska, 111 (1,441); Kansas, 137 (1,885); **South Atlantic,** Delaware, 12 (324); Maryland, 33 (657); West Virginia, 10 (241); Florida, 24 (791); **West South Central,** Louisiana, 14 (675); Oklahoma, 44 (681); **Mountain,** Montana, 9 (91); Wyoming, 2; Colorado, 60 (705); **Arizona,** 13 (362); Utah, 23 (246); Nevada, 4; **Pacific,** Washington, 50 (749); Oregon, 54 (875).

furnished within contract time; and if demanded by Seller at any time at or after making of contract, shipping directions must be furnished within three (3) days after such demand; and if shipping directions, whether demanded or not, are furnished by Buyer within three (3) days after making of contract, Seller shall make shipment within contract time.

(e) Shipping directions on sales for shipment extending more than thirty-one (31) days from making of contract are not due from Buyer until commencement of contract time of shipment but must be furnished by Buyer as follows: If not demanded by Seller, shipping directions must be furnished by Buyer within contract time of shipment; if demanded by Seller at any time at or after commencement of time of shipment specified in contract, shipping directions must be furnished within three (3) days after such demand; and if so furnished by the Buyer, provided the same are received by the Seller at least fourteen (14) days before the last day of contract time of shipment, Seller shall make shipment within contract time.

(f) If, in any of the cases above mentioned and while the contract is still in force, shipping directions are furnished after the first three (3) days of time of shipment specified or provided for in the contract shall have expired, the time of shipment shall be extended so that Seller shall have the same amount of time after the receipt of shipping directions, within which to make shipment, as the length of time of shipment specified or provided for in the contract; and if so furnished, the Seller shall make shipment within the time of shipment as so extended under foregoing provisions.

(g) A change in specifications previously filed with the Seller does not extend any contract except upon mutual agreement at the time such change is requested.

Rule 12. Refusal of Shipment: Failure to make any shipment in keeping with the terms and conditions of a contract shall be grounds for the refusal only of such shipment or shipments, and not for the recession of the entire contract or any other contract between Buyer and Seller.

Rule 13. Condition Guaranteed Upon Arrival: Shipment on contracts shall be guaranteed by the Seller to arrive at final destination, cool, sound and sweet, with the following exception: (a) When shipments are ordered to a reconsignment point, Seller shall not be responsible for condition at final destination unless shipments are ordered forward from such reconsignment points within 48 hours after arrival, and in no case shall Seller be responsible for condition at final destination if a second reconsignment or diversion is made.

(b) It shall be the duty of the Buyer to ascertain and report the condition of the shipment not later than 12:00 o'clock noon of the next business day after arrival at final destination, otherwise the Seller's liability ceases at the expiration of such time.

(c) A Buyer receiving a shipment that is out of condition on arrival and handled as outlined in preceding paragraphs, shall upon Seller's request, unload, recondition, and salvage to best advantage of the Seller whenever practical to do so.

If Buyer is unable to handle as requested, Seller shall dispose of the shipment and be obligated to make replacement, such replacement to be made by a new shipment within seven (7) calendar days from the date of refusal by the Buyer.

Rule 14. Time Limit of Contract; Breach of Contract; and Procedure: A contract shall remain in force and effect for both Seller and Buyer until one or the other shall give due notice in regard to its fulfillment as outlined in the following subsections:

(a) Buyer's Liability: It shall be the duty of the Seller, in event of default on contract, to notify the Buyer of that fact by wire or telephone prior to noon of the day following the date of expiration of the contract.

Upon receipt of such notice, the Buyer shall, within twenty-four (24) hours thereafter, advise the Seller either by wire, telephone or mail which of the following rights he elects to exercise:

(1) Cancel that part of the contract upon which there has been default, without penalty to Seller, or

(2) Require Seller to pay the difference between the contract price and the market price in the market on which the contract is based on the date of cancellation, or

(3) Buy in the open market a like quantity and quality of feedstuffs for Seller's account, Seller to pay Buyer the loss incurred.

In the event that the Seller fails to ship as required by the contract or violates any of the other terms of the contract, and fails to notify the Buyer thereof, the Buyer shall have the right to notify the Seller that the contract is breached, and proceed to exercise his rights as defined above.

If the Buyer delays giving notice of his intention to the Seller, and prior to receiving such notice, but after the expiration date of the contract, the Seller makes a shipment or shipments to apply, such shipment or shipments shall be deemed applicable on the contract, and must be accepted by the Buyer.

(b) Seller's Liability: If shipping instructions are not furnished to the Seller by the Buyer in accordance with Feed Trade Rule 11 hereof, the Seller may elect to treat the contract as breached, and notify the Buyer to that effect by wire or telephone.

Having given notice to the Buyer that he considers the contract breached, the Seller shall have the following rights, and shall, within twenty-four (24) hours after having given his original notice, notify the Buyer by wire or telephone, which one he elects to exercise:

(1) To cancel the contract or any unshipped portion thereof without penalty to the Buyer, or

(2) To resell the goods in the open market for Buyer's account, Buyer to pay Seller the loss incurred, or

(3) To retain the goods, and charge the Buyer with the difference between the contract price and the market price on the date of cancellation, and also in addition thereto such actual expenses as shall have been incurred.

Rule 15. Brokers: (a) A broker is one who is engaged for others, on a commission basis, in negotiating contracts relative to property, with the custody of which, actual or constructive, he has no concern.

A person is not a broker:

First. Who has possession and absolute control of merchandise shipped to him to sell and collect the proceeds. (Therefore, a commission merchant, to whom feed is consigned for sale, is not a broker.)

Second. Who receives a salary instead of a commission or brokerage.

Third. Who acts for one principal to the exclusion of all others.

(b) A broker has power to bind his principals only to the extent of his instructions, and the principals are not liable for any acts of the broker in excess of such instructions.

(c) A broker who in good faith or otherwise, exceeds his authority, is liable for resulting damages.

(d) A broker who negotiates a contract without disclosing his principal's name is responsible as principal until the real principal's name is given and accepted by the other party.

(e) A broker who in good faith negotiates a contract which is in accord with instructions from both his principals, who at the time of the negotiations advises each principal the name of the other, and who completes such negotiations in accordance with the rules and customs governing such transaction, thereby fulfills all his obligations and has no further liability to either of his principals, unless otherwise agreed. The contract so negotiated is valid and binding between the Buyer and Seller, the same as if it has been negotiated directly between them.

(f) Brokerage shall be credited when contract is accepted by principals to the transaction, unless otherwise specified.

Rule 16. Definitions of Feedstuffs: In the absence of agreements to the contrary, definition of feedstuffs shall be the same as those adopted and promulgated by the Association of American Feed Control Officials.

Rule 17. Packing: (a) It shall be understood that all feedstuffs when sold in sacks shall be packed in new bags, unless otherwise agreed at time of trade.

(b) Shipments shall be in even weight packages and the weight of packages shall be net when packed, and two thousand (2,000) pounds net shall constitute a ton.

Rule 18. Labeling: Each feed container must bear a complete label, either stenciled upon the bag or on tag attached thereto, indicating the net weight, name brand, or trademark, minimum per cent of protein and fat, and maximum per cent of crude fiber, the specific name of each ingredient, expressed in its common or usual term, together with name and address of the manufacturer. Labels must be clear and distinct, in type of sufficient size to be easily read, and must conform in all cases to the uniform label adopted by the Association of American Feed Control Officials.

Rule 19. Weights: When feed is shipped in bulk, Seller's weights are final if sworn certificates of weight acceptable as a basis against the carrier are furnished by the Seller at time of shipment unless otherwise specified.

In case of shortage, and certificates herein above described are not furnished by the Seller, Buyer's sworn weight certificate acceptable as a basis of claim against

Formula Feeds, Quantity and Value, 1947 & 1939

Note: These figures cover establishments engaged primarily in manufacturing prepared feeds for animals and fowls. Source: U.S. Bureau of the Census

(Money figures in millions; quantities in thousands of tons)

PRODUCT—	1947 Shipments Quantity	1947 Shipments Value*	1939 Production Quantity	1939 Production Value
PREPARED FEEDS, TOTAL	....	$2,215	....	n.a.
Poultry and livestock feed, total†	22,298	1,982	n.a.	n.a.
Grain (ground, rolled, chopped or crimped)	1,584	....	....	....
Scratch feeds	1,755	....	....	....
Chicken mashes (under 25% protein):				
Layer and breeder	4,318	....	....	....
Starter	960	....	....	....
Grower	1,173	....	....	....
Broiler	1,522	....	....	....
Turkey mash (under 25% protein)	547	....	....	....
Other poultry feeds (under 25% pr.)	612	....	....	....
Supplements and concentrates (over 25% protein)	332	....	....	....
Dairy feed (under 25% protein)	4,664	....	....	....
Dairy feed (over 25% protein)	608	....	....	....
Beef and range cattle feed	436	....	....	....
Sheep and goat feed	71	....	....	....
Pig and hog feed (under 25% prot.)	771	....	....	....
Pig and hog feed (over 25% prot.)	707	....	....	....
Horse and mule feed	534	....	....	....
Other livestock feeds‡	757	....	....	....
Poultry and livestock feeds, kind not specified	447	....	....	....
Dog and cat food, total	....	96	....	$33
Canned	214	38	251	23
Biscuit, pellets and meal	340	58	116	10
Miscellaneous feeds, total	....	86	....	n.a.
Mineral mixtures	200	18	308	8
Alfalfa meal, suncured	397	16	119	8
Alfalfa meal, dehydrated	723	34		
Other prepared feeds**	....	18	n.a.	n.a.
Prepared feeds, kind not specified††	....	51	....	....

*This table includes feeds made by all producers included in the Census of Manufactures.

†Not including byproduct feeds sold for direct consumption as such (tankage, gluten feed, beet pulp, etc.). Feeds mixed on farms or by small farm supply dealers also are not included.

‡Includes feed for rabbits, mink, foxes, laboratory animals, etc.

**Includes crushed oyster shells, egg shells, dried citrus pulp, and other miscellaneous prepared materials used as feeds or feed adjuncts.

††Includes total sales ($30 million) of small establishments classified in the "Prepared animal feeds" industry for which no breakdown of sales was tabulated.

Material Consumed by Feed Industry, 1947

Note: Dollars in millions; quantities in millions of bushels or thousands of tons.
Source: U.S. Bureau of the Census (Note: 1947 figures are latest available)

MATERIAL—	Quantity	Cost (Delivered)
GRAINS (IN BUSHELS):		
Barley	30.6	$ 48
Corn	138.4	293
Oats	112.6	124
Sorghum	16.6	33
Soybeans	7.3	23
Wheat	35.1	88
Other grains	2.0	4
Other materials (in tons):		
Corn meal	695	53
Gluten feed and meal	667	46
Hominy feed and meal	346	25
Brewers' and distillers' grains	462	30
Millfeeds and screenings	2,769	163
Cottonseed cake and meal	283	24
Soybean cake and meal	2,392	199
Linseed cake and meal	205	17
Other oilcake and meal	159	12
Meat scrap	560	60
Tankage	103	12
Fish meal and scrap	187	26
Dried milk and whey	91	13
Beet and citrus pulp	107	5
Alfalfa meal	1,019	55
Molasses	528	26
Bone meal and minerals	....	19

Rule 19. Shortage Claims: Unless otherwise agreed at the time of purchase or sale, the weight at destination shall be the weight basis for use in settlement of such shortage claims.

Rule 20. Wheat By-Products Feeds: Durum wheat by-products shall not be deliverable on contracts for wheat by-product feeds unless so specified and/or mutually agreed to by both Buyer and Seller.

Rule 21. Registration: On sales of feedstuffs the Seller guarantees that the feedstuffs shall comply with the laws of the State into which it is sold, including registration and tax, if any, unless otherwise agreed at the time of sale.

Rule 22. Government Taxes on Freight Charges: Unless otherwise agreed at the time of purchase or sale, all Government taxes on freight charges shall be paid as follows: On all feed sold delivered, it shall be the duty of the Seller to pay all taxes imposed by the Government. It shall be the duty of the Buyer to pay the said taxes on all feed bought f.o.b. shipping point. It is the intention of this rule to impose the said taxes upon the part/ who, by the terms of the contract, assumes liability for the freight charges.

Rule 23. Alteration of Contract: The specifications of a contract cannot be altered or amended without the expressed consent of both the Buyer and Seller. (This abolishes the custom of "silence confirms.")

The agricultural extension service of Iowa State College reports that one acre of wheat can feed 10 people for 52 days.

Material Consumed by Formula Feed Industry, 1947

Note: These figures cover establishments engaged primarily in manufacturing formula feeds for animals and fowls. Shipments in these establishments amounted to 94% of the total value of shipments of the formula feed industry. 000's omitted. **Source: U. S. Bureau of the Census (Note: 1947 figures are the latest available)**

Division and state	Total cost	Barley Quantity (bu.)	Barley Value	Corn (except corn meal) Quantity (bu.)	Corn (except corn meal) Value	Oats Quantity (bu.)	Oats Value	Sorghum grain Quantity (bu.)	Sorghum grain Value	Soybeans Quantity (bu.)	Soybeans Value	Wheat Quantity (bu.)	Wheat Value	Other grains** Quantity (bu.)	Other grains** Value	Corn meal Quantity (tons)	Corn meal Value
U. S.	**$1,398,901**	**30,553**	**$48,463**	**137,503**	**$292,337**	**112,591**	**$123,981**	**16,637**	**$33,445**	**7,230**	**$22,686**	**41,384**	**$103,530**	**2,004**	**$4,263**	**695**	**$53,324**
New Eng.:																	
Maine	935	*	*	*	*	*	*	....	....	....	....	*	*	....	....	†	†
New Hamp.	6,534	†	*	*	*	*	*	....	....	....	....	128	322	....	....	*	*
Vermont	44,891	430	$00	*	*	3,924	4,651	*	*	....	....	539	1,437	*	*	*	*
Mass.	19,766	197	352	1,190	2,718	1,341	1,654	*	*	....	....	368	998	*	*	*	*
Conn.	5,582	*	*	1,025	2,199	593	698	....	....	*	*	181	435	†	†	1.2	101
M. Atlantic:																	
N. York	235,876	2,855	4,618	32,589	47,607	24,432	27,599	*	*	130	381	3,099	8,133	439	862	117.0	9,065
N. Jersey	21,367	219	355	2,379	5,375	2,449	2,908	*	*	*	*	1,192	3,383	†	†	16.7	1,313
Penn.	65,424	1,033	1,477	6,862	15,313	5,477	6,493	198	387	†	†	1,810	4,274	299	734	41.0	3,189
E. N. Cent.:																	
Ohio	111,831	1,098	1,748	11,941	25,332	7,239	8,070	345	698	*	*	1,241	3,087	106	189	22.9	1,567
Indiana	50,177	200	333	3,197	6,286	2,365	2,473	†	†	*	*	917	2,127	†	†	*	*
Illinois	94,601	1,187	2,063	7,204	15,137	4,898	5,106	198	373	38	104	721	1,826	*	*	*	*
Michigan	5,377	†	†	635	1,462	358	440	*	*	†	†	170	467	†	†	†	†
Wisconsin	32,516	269	467	8,736	17,383	5,244	5,343	*	*	*	*	365	968	†	†	†	†
W. N. Cent.:																	
Minnesota	41,047	893	1,312	2,277	4,865	4,214	4,558	48	104	†	†	1,093	2,821	62	164	10.2	812
Iowa	39,180	*	*	2,825	5,985	4,338	4,357	219	500	*	*	568	1,420	†	†	5.2	345
Missouri	70,076	329	542	5,060	10,072	4,533	4,620	760	1,455	*	*	1,012	2,410	†	†	47.7	3,152
No. Dak.	193	*	*	†	†	†	†	*	*	....	....	*	*	*	*	....	....
So. Dak.	1,547	*	*	223	426	190	187	*	*	....	....	*	*	†	†	†	†
Nebraska	19,942	†	†	1,414	2,776	609	599	*	*	....	....	274	615	*	*	*	*
Kansas	21,632	130	222	2,129	4,459	1,259	1,366	766	1,408	†	†	122	268	....	....	†	†
S. Atlantic:																	
Delaware	19,252	†	†	*	*	*	*	*	*	....	....	78	187	....	....	*	*
Maryland	16,770	232	407	2,239	4,704	1,374	1,626	126	311	....	....	370	769	*	*	*	*
Virginia	25,889	179	291	2,551	5,919	1,511	1,834	*	*	*	*	2,215	5,776	†	†	16.5	1,224
West Va.	3,669	†	†	870	1,650	297	319	*	*	†	†	381	922	*	*	†	†
N. Carolina	31,594	159	241	2,809	5,909	1,769	1,767	214	434	*	*	4,703	12,593	†	†	19.7	1,557
S. Carolina	7,097	†	†	666	1,576	565	607	*	*	....	....	486	1,343	*	*	†	†
Georgia	13,450	†	†	1,933	4,291	1,065	1,104	56	114	....	....	702	1,813	†	†	3.0	237
Florida	9,883	†	†	877	2,042	1,357	1,520	*	*	....	....	173	455	....	....	5.4	419
E. S. Cent.:																	
Kentucky	15,913	74	126	2,478	4,979	868	886	54	124	....	....	1,228	3,038	....	....	4.9	320
Tennessee	51,764	621	966	4,814	9,722	5,453	5,934	373	700	*	*	916	2,457	†	†	*	*
Alabama	25,702	*	*	4,873	10,489	*	*	433	887	....	....	494	1,262	†	†	*	*
Miss.	14,100	189	314	2,750	6,297	1,717	1,853	138	225	....	....	246	595	*	*	†	†
W. S. Cent.:																	
Arkansas	15,249	110	178	3,092	6,191	2,421	2,588	198	379	....	....	100	249	*	*	5.8	475
Louisiana	8,218	*	*	1,579	3,053	1,029	1,149	*	*	....	....	90	184	*	*	†	†
Oklahoma	11,013	60	101	1,685	3,954	433	460	594	1,144	†	†	135	314	....	....	†	†
Texas	61,644	563	873	5,346	10,596	7,353	7,336	4,018	8,859	....	....	4,364	10,063	235	474	22.1	1,641
Mountain:																	
Montana	1,548	122	160	87	193	249	230	....	....	....	....	†	†	†	†	....	....
Idaho	1,541	*	*	*	*	*	*	....	....	....	....	*	*	*	*	....	....
Colorado	6,336	515	822	455	1,350	495	501	121	203	*	*	95	207	*	*	*	*
New Mex.	†	*	*	*	*	†	†	*	*	....	....	*	*	....	....	†	†
Arizona	3,073	709	1,056	116	282	103	143	282	502	....	....	130	290	†	†	....	....
Utah	8,277	776	1,255	*	*	123	135	*	*	*	*	528	1,270	....	....	....	....
Nevada	131	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Pacific:																	
Washington	16,648	776	1,414	1,045	2,649	1,743	2,143	†	†	*	*	1,459	3,728	50	108	†	†
Oregon	15,263	884	1,536	896	2,099	1,248	1,609	116	262	†	†	993	2,534	†	†	†	†
California	126,359	15,208	23,510	10,129	22,238	3,327	3,997	4,278	7,739	*	*	7,579	18,128	160	244	3.1	261
Undistributed‡	†	536	893	6,327	13,759	4,730	5,214	3,102	6,636	7,062	22,201	78	172	663	1,488	352.6	27,646

*Withheld to avoid disclosing figures for individual companies.

†Value less than $100,000.

‡Undistributed figures (included in total cost for each state) are the totals of state figures withheld.

**Rye, buckwheat, etc.

New York Free Lighterage

HUDSON RIVER

New York side: Battery to 135th Street.

New Jersey side: National Storage Docks, Communipaw, to and including George Washington Bridge.

EAST RIVER AND HARLEM RIVER

New York side: Battery to Jerome Avenue Bridge, including Harlem River side of Ward's Island and Randall's Island.

Brooklyn side: From Pot Cove, Astoria, L. I., to and including 69th Street, South Brooklyn (Bay Ridge), including Newton Creek, Dutch Kills Creek and Whale Creek points in the Wallabout Canal and to Hamilton Avenue Bridge, Gowanus Canal.

NEW YORK BAY

New York Bay: Points on north and east shore of Staten Island, between Bridge Creek (Arlington) and Clifton (Hylan Boulevard), both inclusive, and including Shooters Island.

Points on the New Jersey shore on New York Bay, and on Kill von Kull between Constable Hook and Avenue C, Bayonne City, opposite Port Richmond, S. I.

KILL VON KULL, NEWARK BAY, PASSAIC AND HACKENSACK RIVERS

Kill von Kull, Newark Bay, Passaic and Hackensack Rivers: To and from points on the New Jersey shore between Avenue C, Bayonne, to and including Neck of Bergen Point (except Safety Ins. Wire and Cable Co. dock).

To and from points on the east shore of Newark Bay, beyond Neck of Bergen Point to and including C. R. R. of N.J. main line (Newark Bay) bridge.

To and from points beyond C. R. R. of N.J. main line (Newark Bay) bridge to Newark and Kearny, N.J., inclusive, and points on the Hackensack River to and including Newark-Jersey City turnpike bridge.

STATEN ISLAND SOUND

Staten Island Sound: To and from points on New Jersey shore from the C. R. R. of N. J. main line (Newark Bay) bridge to and including Perth Amboy, N. J., on Staten Island Sound.

Commercial Broiler Production in 16 States, 1953-54[1]

State and Total	1953[2] Number produced (000's)	1953[2] Price per lb. Cents	1954 Number produced (000's)	1954 Price per lb. Cents
Maine	27,883	25.9	30,677	22.2
Conn.	23,904	28.0	25,099	23.3
Ind.	33,674	27.5	36,368	23.2
Del.	68,451	26.3	69,820	22.6
Md.	62,093	26.3	58,367	22.6
Va.	58,745	26.0	59,332	22.5
W.Va.	22,508	26.5	25,434	22.9
N.C.	50,738	26.3	56,827	23.1
Ga.	121,631	26.6	154,471	21.9
Fla.	10,479	28.9	11,736	24.6
Ala.	28,416	27.0	47,739	22.8
Miss.	35,671	26.7	40,308	22.2
Ark.	74,080	26.3	78,525	22.0
Texas	65,264	27.6	71,790	23.5
Ore.	4,889	28.5	5,525	25.2
Calif.	48,560	29.0	50,017	26.2
Total	736,991	26.8	822,035	22.8

[1]States having weekly chick placement reports.

[2]Revised.

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Material Consumed by Formula Feed Industry, 1947

Note: These figures cover establishments engaged primarily in manufacturing formula feeds for animals and fowls. Shipments in these establishments amounted to 94% of the total value of shipments of the formula feed industry. 000's omitted. Source: U. S. Bureau of the Census (Note: 1947 figures are the latest available)

State	Tankage Quantity (tons)	Tankage Value	Fish meal and scrap Quantity (tons)	Fish meal and scrap Value	Dr. skim milk and buttermilk Quantity (lb.)	Dr. skim milk and buttermilk Value	Dried whey Quantity (lb.)	Dried whey Value	Beet pulp (plain and molasses) Quantity (tons)	Beet pulp (plain and molasses) Value	Citrus pulp Quantity (tons)	Citrus pulp Value	Alfalfa meal Quantity (tons)	Alfalfa meal Value	Molasses Quantity (tons)	Molasses Value	Bone meal and minerals Quantity (tons)	Bone meal and minerals Value
U. S.	103	$11,941	187	$25,647	62,510	$5,101	118,088	$8,123	68	$3,609	39	$1,871	1,019	$54,776	528	$25,600	....	$19,176
Maine	...	....	•	•	....	....	....	....	†	†	†	†	†	†	†	†	....	•
New Hamp.	...	....	1.6	165	....	....	†	†	†	†	†	†	4.4	258	•	•	....	•
Vermont	...	....	3.9	563	•	•	•	†	†	†	†	†	17.2	1,106	16.6	1,021	....	170
Mass.	...	....	6.2	855	†	†	•	•	†	†	†	†	9.5	625	•	•	....	†
Connecticut	...	....	†	†	†	†	•	•	†	†	†	†	2.4	156	†	†	....	†
New York	•	•	30.3	3,892	5,004	427	27,655	1,773	8.0	503	†	†	106.6	6,338	104.4	5,146	....	3,842
New Jersey	†	†	3.8	476	•	•	2,152	151	†	†	....	....	8.6	595	4.0	204	....	†
Pennsylvania	2.2	206	7.4	855	7,337	631	4,453	329	1.6	116	†	†	51.0	2,852	13.5	714	....	340
Ohio	3.7	418	8.9	1,254	8,345	663	6,402	428	15.0	530	•	•	62.3	3,393	29.1	1,390	....	962
Indiana	6.7	815	9.0	1,282	1,640	167	3,017	241	†	†	•	•	33.3	1,970	12.5	736	....	764
Illinois	21.4	2,563	20.8	2,872	8,175	722	8,834	588	2.1	127	†	†	107.4	6,859	32.0	1,496	....	2,059
Michigan	†	†	†	†	†	†	†	†	†	†	....	....	3.3	179	†	†	....	†
Wisconsin	†	†	†	†	†	†	†	†	†	†	†	†	9.5	474	4.0	200	....	560
Minnesota	9.9	1,118	7.5	1,129	2,870	225	1,782	146	3.2	183	†	†	27.5	1,491	12.4	547	....	546
Iowa	14.3	1,701	3.5	517	3,398	236	1,362	100	•	•	†	†	25.8	1,420	8.3	471	....	1,889
Missouri	8.5	1,136	5.2	794	†	†	•	•	•	•	•	•	59.3	2,836	40.0	2,000	....	1,086
No. Dakota	....	....	†	†	•	•	....	....	....	....	....	....	†	†	†	†	....	†
So. Dakota	†	†	†	†	•	•	†	†	....	....	....	....	†	†	†	†	....	•
Nebraska	5.8	671	2.1	243	1,225	117	†	†	†	†	†	†	33.8	1,604	9.2	465	....	719
Kansas	•	•	2.5	391	†	†	1,735	135	†	†	†	†	44.5	2,414	10.8	559	....	297
Delaware	...	....	•	•	†	†	•	•	†	†	†	†	•	•	•	•	....	•
Maryland	1.3	178	1.6	213	†	†	1,688	119	†	†	†	†	7.5	470	4.0	204	....	†
Virginia	†	†	2.2	283	†	†	•	•	†	†	†	†	11.6	698	6.7	347	....	178
W. Virginia	†	†	†	†	•	•	....	....	....	....	....	....	†	†	†	†	....	•
No. Carolina	2.2	229	6.5	834	2,106	138	2,479	181	†	†	†	†	12.4	780	7.3	382	....	231
So. Carolina	...	....	2.0	243	•	•	•	•	†	†	†	†	5.1	301	2.1	162	....	•
Georgia	†	†	†	†	†	†	†	†	†	†	†	†	9.4	574	7.1	367	....	200
Florida	†	†	1.1	132	•	•	†	†	†	†	0.3	278	7.2	407	9.6	408	....	137
Kentucky	†	†	†	†	†	†	•	....	....	....	....	....	11.2	507	8.9	391	....	•
Tennessee	3.1	277	5.0	584	†	†	2,541	172	1.6	106	2.0	84	44.7	2,129	37.4	1,661	....	662
Alabama	†	†	†	†	•	•	•	•	†	†	....	....	12.5	716	9.8	387	....	288
Mississippi	†	†	†	†	†	•	•	•	†	†	†	†	14.2	622	10.5	426	....	149
Arkansas	†	†	†	†	•	•	†	†	†	†	†	†	9.6	501	8.3	423	....	260
Louisiana	...	....	†	†	•	•	•	•	†	†	†	†	6.3	352	5.2	267	....	•
Oklahoma	†	†	....	....	•	•	•	•	†	†	....	....	8.1	432	3.0	166	....	•
Texas	3.6	383	3.9	555	2,494	195	3,449	231	†	†	5.6	267	44.5	2,195	34.6	1,706	....	686
Montana	†	†	†	†	•	•	•	•	†	†	....	....	•	•	•	•	....	•
Idaho	...	....	†	†	•	•	•	•	†	†	....	....	•	•	•	•	....	•
Colorado	†	†	†	†	†	†	•	•	†	†	....	....	6.1	244	5.4	266	....	•
New Mexico	†	†	....	....	....	....	†	†	....	....	†	†	....	....	†	†	....	†
Arizona	...	....	†	†	•	•	•	•	†	†	†	†	†	†	†	†	....	•
Utah	†	†	2.5	413	†	†	•	•	†	†	....	....	12.4	440	•	•	....	†
Nevada	...	....	....	....	....	....	....	....	....	....	....	....	•	•	....	....	....	....
Washington	†	†	2.5	254	1,267	123	†	†	2.0	121	....	....	8.5	465	•	•	....	†
Oregon	†	†	2.9	430	1,691	143	1,984	130	†	†	†	†	14.5	710	3.1	126	....	102
California	•	•	37.2	5,708	4,055	305	12,724	830	27.8	1,505	6.8	315	139.1	6,310	21.2	899	....	1,128
Undistributed‡	20	2,248	7	894	12,809	1,010	34,662	2,569	7	418	18	937	28	1,349	47	2,063	....	356

•Withheld to avoid disclosing figures for individual companies.

†Value less than $100,000.

‡Undistributed figures (included in total cost for each state) are the totals of state figures withheld.

Definitions of Principal Grain By-Product Feeds

Following are definitions for the principal grain by-products feeds as approved by the Association of American Feed Control Officials:

BARLEY PRODUCTS

Barley Feed is the entire by-product resulting from the manufacture of pearl barley from clean barley.

Barley Hulls are the product consisting of the outer covering of the barley.

Barley Mixed Feed is the entire offal from the milling of barley flour from clean barley, and is composed of barley hulls and barley middlings.

Ground Barley is the entire product obtained by grinding clean, sound barley, containing not less than 90% of pure barley and not more than 10% of other grains, weed seeds and other foreign material, and not more than 6% crude fiber; provided, that no portion of this stated 10% of other grains, weed seeds or other foreign material shall be intentionally added.

Rolled or Crimped Barley is heavy barley that has been rolled to desired thickness after tempering so as not to crumble. It shall contain not less than 90% pure barley and not more than 10% weed seeds or other foreign materials and not more than 6% crude fiber.

BUCKWHEAT PRODUCTS

Buckwheat Feed is a mixture of buckwheat middlings and buckwheat hulls. It must not contain more than 30% of crude fiber.

Buckwheat Middlings is that portion of the buckwheat grain immediately under the hull after separation of the flour. It shall contain no more hulls than is obtained in the usual process of buckwheat milling, and must not contain more than 10% of crude fiber.

CORN PRODUCTS

Ear Corn Chops with Husks is corn, cob and husks chopped, with no greater proportion of cob and husks than occurs in the ear corn in its natural state.

Flaked Corn is the product obtained by running cracked corn which has been aspirated and properly tempered, over smooth flaking rolls and subsequently dried and cooled.

Toasted Corn Flakes is the product obtained by running cracked corn which has been aspirated and properly tempered, over smooth flaking rolls, and subsequently dried, cooled and toasted.

Corn Germ Cake consists of corn germ with other parts of the corn kernel from which part of the oil has been pressed, and is the product obtained in the dry milling process of manufacture of corn meal, corn grits, hominy feed and other corn products.

Corn Germ Meal is ground corn germ cake.

Corn Gluten Feed is that part of commercial shelled corn that remains after the extraction of the larger part of the starch and germ by the processes employed in the wet milling manufacture of constarch or syrup. It may or it may not contain one or more of the following: corn solubles, corn oil meal.

Corn Gluten Meal is that part of the commercial shelled corn that remains after the extraction of the larger part of the starch and germ, and the separation of the bran by the processes employed in the wet milling manufacture of cornstarch or syrup. It may or it may not contain one or more of the following: corn solubles, corn oil meal.

Corn Oil Cake and Corn Oil Flakes consist of the corn germ from which most of the oil has been removed by hydraulic, expeller or solvent extraction, and are the standards obtained in the wet milling process of manufacture of cornstarch, corn syrup and other corn products.

Corn Oil Meal is ground corn oil cake or flakes.

Corn Chop, Ground Corn or Cracked Corn is the entire product made by grinding, cutting or chopping the grains of sound Indian corn, and may be fine, medium or

Material Consumed by Formula Feed Industry, 1947

Note: These figures cover establishments engaged primarily in manufacturing formula feeds for animals and fowls. Shipments in these establishments amounted to 94% of the total value of shipments of the formula feed industry. 000's omitted. **Source: U. S. Bureau of the Census (Note: 1947 figures are the latest available)**

Division and state	Corn gluten feed & meal		Hominy feed & meal		Brewers' and distillers' spent grains		Millfeeds and screenings		Cottonseed cake & meal		Soybean cake & meal		Linseed cake & meal		Other oil cake & meal		Meat scrap	
	Quantity (tons)	Value	Quantity (tons)	Value	Quantity (tons)	Value	Quantity (tons)	Value	Quantity (tons)	Value	Quantity (tons)	Value	Quantity (tons)	Value	Quantity (tons)	Value	Quantity (tons)	Value
U. S.	**667**	**$46,184**	**346**	**$25,424**	**462**	**$29,605**	**2,769**	**$163,387**	**287**	**$24,147**	**2,392**	**$199,258**	**205**	**$16,722**	**159**	**$12,091**	**560**	**$59,943**
New Eng.:																		
Maine	•	•	†	†	†	†	•	•	†	†	†	†	†	†	†	†	†	†
New Hamp.	4.1	289	•	•	•	•	18.1	1,128	†	†	6.2	490	†	†	----	----	2.5	237
Vermont	29.9	2,218	28.0	2,069	18.3	1,275	107.7	7,284	1.7	155	44.5	3,908	•	•	•	•	12.1	1,385
Massachusetts	6.4	506	5.8	442	3.8	271	51.0	3,554	†	†	24.3	2,169	•	•	†	†	6.8	792
Connecticut	3.3	242	2.0	157	†	†	7.9	313	†	†	6.4	550	†	†	†	†	3.9	410
M. Atlantic:																		
New York	205.8	13,760	117.9	8,831	144.9	9,235	506.7	29,633	11.9	1,025	417.9	33,847	51.5	4,257	26.3	2,003	67.9	7,095
New Jersey	4.2	318	†	†	8.8	661	27.7	1,851	†	†	19.9	1,828	1.6	147	†	†	13.1	1,307
Pennsylvania	40.7	3,075	11.9	891	21.2	1,346	120.0	6,061	9.3	797	120.4	10,730	8.9	735	10.7	925	29.5	2,927
E. N. Cent.:																		
Ohio	79.8	5,183	38.9	2,663	55.0	3,274	281.8	14,890	25.5	2,172	270.1	22,313	11.5	968	6.3	402	42.3	4,387
Indiana	15.0	1,016	6.4	477	10.6	718	69.3	4,217	7.7	708	188.4	15,347	4.2	388	1.9	133	26.9	2,862
Illinois	51.0	3,292	36.1	2,396	35.1	2,121	153.0	8,810	12.6	1,085	272.3	21,646	12.5	1,033	11.0	938	70.7	8,204
Michigan	3.6	256	1.7	121	3.0	140	7.6	434	†	†	11.0	910	†	†	†	†	4.7	485
Wisconsin	7.9	547	2.8	152	3.5	229	28.5	1,637	†	†	28.4	2,365	5.0	393	†	†	12.5	1,434
W. N. Cent.:																		
Minnesota	13.8	1,105	†	†	1.8	116	131.8	7,398	3.2	268	104.1	8,607	16.3	1,378	2.1	166	17.9	1,988
Iowa	5.6	441	†	†	2.9	214	77.2	5,334	6.7	586	105.7	8,963	19.2	1,370	2.8	248	26.2	2,777
Missouri	39.0	2,718	3.8	240	•	•	161.5	9,748	28.2	2,452	113.4	9,404	5.5	441	4.4	290	28.1	3,146
No. Dakota	†	†	†	†	----	----	----	----	•	•	†	†	†	†	†	†	†	†
So. Dakota	†	†	----	----	†	†	4.2	271	†	†	4.8	369	†	†	†	†	1.2	133
Nebraska	4.4	301	†	†	5.8	423	34.4	1,990	7.6	725	67.5	5,417	9.6	744	1.2	100	12.7	1,348
Kansas	6.8	451	•	•	3.0	175	71.2	4,271	2.6	220	38.7	3,326	1.5	127	1.4	110	7.2	780
S. Atlantic:																		
Delaware	•	•	•	•	†	†	•	•	†	†	•	•	†	†	†	†	•	•
Maryland	13.6	1,093	•	•	11.8	594	29.9	1,935	5.8	554	26.8	2,255	1.3	113	3.6	236	5.1	517
Virginia	9.3	633	1.8	140	11.2	784	54.1	3,272	3.8	298	34.2	2,900	†	†	7.1	466	10.0	1,040
W. Virginia	†	†	†	†	†	†	4.2	273	†	†	2.9	259	•	•	†	†	†	†
N. Carolina	13.5	968	4.2	341	11.7	796	44.0	3,011	10.8	870	28.1	2,534	†	†	5.1	408	8.2	853
S. Carolina	•	•	•	•	2.7	147	•	•	2.4	188	8.1	619	†	†	•	•	1.4	150
Georgia	5.1	373	4.1	349	4.1	281	24.0	1,450	9.9	819	6.3	536	†	†	5.7	425	4.2	446
Florida	7.0	500	2.5	186	6.2	455	18.7	1,062	6.8	523	8.2	721	†	†	4.6	369	1.0	111
E. S. Cent.:																		
Kentucky	2.9	274	6.2	417	18.5	1,090	32.5	2,133	2.8	234	26.1	2,096	†	†	†	†	1.9	184
Tennessee	26.3	1,733	13.8	915	18.3	1,119	126.9	7,348	20.3	1,800	87.1	6,687	2.6	207	3.7	291	13.7	1,324
Alabama	6.2	417	•	•	†	†	32.5	2,106	14.3	1,160	•	•	†	†	†	†	•	•
Mississippi	4.2	267	•	•	•	•	25.1	1,493	6.6	543	9.4	734	†	†	†	†	1.1	130
W. S. Cent.:																		
Arkansas	5.1	367	•	•	†	†	33.2	1,702	7.7	612	8.2	698	†	†	†	†	1.7	187
Louisiana	•	•	†	†	†	153	11.6	786	5.2	437	6.3	603	†	†	†	†	†	†
Oklahoma	1.4	106	†	†	†	†	34.2	2,175	2.9	268	12.2	1,122	†	†	†	†	4.7	522
Texas	23.2	1,679	6.5	427	8.4	506	95.4	5,397	35.5	3,054	55.1	4,719	5.7	519	10.7	773	20.0	1,978
Mountain:																		
Montana	†	†	†	†	†	†	•	•	†	†	•	•	†	†	†	†	†	†
Idaho	†	†	----	----	†	†	•	•	†	†	•	•	†	†	----	----	†	†
Colorado	•	•	----	----	†	†	6.9	574	2.7	235	10.4	851	1.2	105	†	†	2.1	211
New Mexico	----	----	----	----	----	----	†	†	†	†	†	†	----	----	----	----	†	†
Arizona	†	†	----	----	•	•	•	•	2.1	188	1.0	103	†	†	†	†	1.5	160
Utah	----	----	----	----	†	†	20.6	1,170	†	†	5.9	582	†	†	†	†	9.2	960
Nevada	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Pacific:																		
Washington	†	†	•	•	†	†	30.2	1,483	•	•	15.0	1,427	2.1	168	†	†	4.4	428
Oregon	†	†	•	•	†	†	50.0	2,618	†	†	15.6	1,455	1.4	123	3.1	211	8.7	922
California	2.0	172	•	•	3.3	223	175.8	10,905	24.8	1,955	105.0	9,414	20.6	1,478	40.7	3,054	59.8	6,326
Undistributed‡	26	1,884	52	3,711	48	3,510	60	3,611	•	•	77	6,754	23	2,028	7	543	16	1,797

•Withheld to avoid disclosing figures for individual companies.

†Value less than $100,000.

‡Undistributed figures (included in total cost for each state) are the totals of state figures withheld.

coarse. It must not contain more than 4% of foreign material.

Screened Corn Chop, Screened Ground Corn, or Screened Cracked Corn is the coarse portion of corn chop, ground corn or cracked corn from which most of the fine particles have been removed. It must not contain more than 4% of foreign material.

Corn Meal is finely ground, unbolted corn.

Corn Bran is the outer coating of the corn kernel, with little or none of the starchy part or germ.

Corn Feed Meal is the fine siftings obtained in the manufacture of screened corn chop, screened ground corn or screened cracked corn, with or without its aspiration products added.

Corn Grits, Hominy Grits is the product consisting of the fine or medium-sized, hard, flinty portions or sound Indian corn containing little or none of the bran or germ.

Corn Screenings is the product consisting of the small, light grains of corn, parts of grains of corn or other cereals, and other materials having feeding value, separately or together, obtained by screening shelled corn, excluding sand, dirt and other similar inert materials.

Ear Corn Chops is corn and cob chopped, without the husk, with no greater proportion of cob than occurs in the ear corn in its natural state.

Maltose Processed Corn is the dried residue from cleaned whole ground corn, after the removal of the starch in the manufacture of malt syrup.

Maltose Process Corn Gluten Feed is the dried residue from degermed corn, after removal of the starch in the manufacture of malt syrup.

Hominy Feed is a mixture of corn bran, corn germ and part of the starchy portion of either white or yellow corn kernels or mixture thereof as produced in the manufacture of pearl hominy, hominy grits or table meal, and shall contain not less than 5% of crude fat. If prefixed with the words "white" or "yellow," the product must correspond thereto.

OAT PRODUCTS

Oat Hulls is the product consisting of the outer covering of the oat.

Oat Middlings is the product consisting of the floury portions of the oat groat obtained in the milling of rolled oats.

Oat Shorts is the product consisting of the covering of the oat grain lying immediately inside the hull, being a fuzzy material carrying with it considerable portions of the fine floury part of the groat obtained in the milling of rolled oats.

Clipped Oat By-product is the by-product obtained in the manufacture of clipped oats. It may contain the light, chaffy material broken from the end of the hulls, empty hulls, light, immature oats and dust. It must not contain an excessive amount of oat hulls.

Oat Chop, Ground Oats, Pulverized Oats, Crushed Oats or Crimped Oats consist of the entire product made by chopping, cutting, grinding, crushing or crimping whole oats. It shall contain not more than 10% of other grains, weed seeds and other foreign material.

Oat Groats are the kernels produced from cleaned and dried oats in the process of manufacturing oatmeal.

Hulled Oats, Undried Oat Groats are the kernels produced from the undried grain in the process of hulling oats.

Feeding Oatmeal is a product obtained in the manufacture of rolled oat groats or rolled oats and consists of broken rolled oat groats, oat groat chips, and floury portions of the oat groats, with only such quantity of finely ground oat hulls as is unavoidable in the usual process of commercial milling. It must not contain more than 4% of crude fiber.

Oat Millfeed (Oat Hulls, Oat Shorts and Oat Middlings) is the entire by-product produced in the manufacture of oat groats and consists of oat hulls, oat shorts and oat middlings. It shall contain not more than 30% crude fiber. If used in a mixed feed, it shall be called Oat Millfeed (Oat Hulls, Oat Shorts and Oat Middlings).

Cut Oat Groats, Cracked Oat Groats, or Ground Oat Groats is the product produced by cutting, cracking or grinding oat groats.

Oat Huller Feed is the by-product obtained in the newer methods of manufacturing oat groats and consists primarily of oat hulls. It shall contain not more than 34% crude fiber.

RYE PRODUCTS

Rye Bran is the coarse outer covering of the rye kernel as separated from the cleaned and scoured rye.

Rye Feed, a by-product obtained in the usual process of the milling of rye flour from cleaned and scoured rye, consisting principally of the mill run of the outer covering of the rye kernel and the rye germ, with small quantities of rye flour and aleurone, and must not contain more than 9.5% of crude fiber.

Rye Flour Middlings consist of rye feed, rye red dog and rye flour combined in the proportions obtained in the milling of rye flour, and must not contain more than 5% of crude fiber.

Rye Low Grade Feed Flour consists principally of rye flour and small quantities of aleurone and fine rye bran particles, and must not contain more than 1.5% crude fiber.

Rye Middlings consist of rye feed and rye red dog combined in the proportions obtained in the usual process of milling rye flour, and must not contain more than 8.5% of crude fiber.

Rye Red Dog, a by-product obtained in the usual process of the milling of rye flour, consisting principally of aleurone with small quantities of rye flour and fine rye bran particles, and must not contain more than 3.5% crude fiber.

SCREENINGS

Screenings is the by-product obtained in the cleaning of grains which are included in the U.S. Grain Standard Act and other agricultural seeds. It may include light and broken grains and agricultural seeds, weed seeds, hulls, chaff, joints, straw, elevator or mill dust, sand and dirt. It shall be designated as Grain Screenings, Mixed Screenings and Chaff and/or Dust.

No grade of screenings shall contain any seeds or other material in amount that is either injurious to animals or will impart an objectionable odor or flavor to their milk or flesh. The screenings shall contain not more than four whole primary noxious weed seeds per pound and shall contain not more than 100 whole secondary noxious weed seeds per pound. The primary and secondary noxious weed seeds shall be those named as such by the individual state seed control laws.

All grades of screenings shall bear minimum guarantees of protein and fat and maximum guarantees of fiber and ash. When used in mixed feeds the portion of the description appearing in parentheses in these definitions shall appear in the list of ingredients.

Grain Screenings shall consist of 70% or more of grain (light and broken) including wild buckwheat and wild oats. It shall contain not more than 6.5% ash. It shall be labeled "Grain Screenings (from wheat, corn, oats, etc.)."

Mixed Screenings is screenings excluded from the preceding grade. It shall be labeled "Mixed Screenings (grains, seeds, hulls, chaff)." If it contains more than 13% ash the words "sand" and "dirt" shall appear on the label.

Chaff and/or Dust is material that is separated from grains or seeds in the usual commercial cleaning processes. It may include hulls, joints, straw, mill or elevator dust, sweepings, sand, dirt, grains, seeds. It shall be labeled "Chaff and/or Dust." If it contains more than 15% ash the words "sand" and "dirt" shall appear on the label.

WHEAT PRODUCTS

Wheat Bran is the coarse outer covering of the wheat kernel as separated from cleaned and scoured wheat in the usual process of commercial milling.

Wheat Mixed Feed consists of the coarse outer covering of the wheat kernel, fine particles of wheat bran, wheat germ and wheat flour, and the offal from the "tail of the mill." This product shall be obtained in the usual process of commercial milling and shall contain not more than 9.5% of crude fiber.

Wheat Standard Middlings consists of fine particles of wheat bran, wheat germ, wheat flour and some of the offal from the "tail of the mill." This product shall be obtained in the usual process of commercial milling and shall contain not more than 9.5% of crude fiber.

Wheat Brown Shorts consists of fine particles of wheat bran, wheat germ, and wheat flour and some of the offal from the "tail of the mill." This product shall be obtained in the usual process of commercial milling and shall contain not more than 7.5% of crude fiber.

Wheat Gray Shorts, Wheat Gray Middlings, or Wheat Flour Middlings consists of fine particles of wheat bran, wheat germ, wheat flour, and the offal from the "tail of the mill." The product shall be obtained in the usual process of commercial milling and shall contain not more than 6% of crude fiber.

U.S. Stocks of Principal Feed Grains

Note: In bushels, 000's omitted. **Source: USDA**

The Crop Reporting Board of the Agricultural Marketing Service has assembled from various sources the following information on stocks of grains in all positions:

Grain and position—	Jan. 1, 1953	Jan. 1, 1954	Oct. 1, 1954	Jan. 1, 1955
Wheat—				
On farms*	401,110	423,068	429,474	315,689
Terminals†	259,257	316,765	422,772	374,369
Commodity Credit Corp.‡	4,655	44,674	126,228	131,366
Merchant mills* ¶	128,199	123,467	158,981	145,122
Interior mills, elevators & warehouses* §	312,694	424,292	539,152	493,760
Total	1,105,915	1,332,266	1,676,607	1,460,246
Rye—				
On farms*	3,649	6,662	14,583	8,896
Terminals†	2,892	11,028	12,047	10,940
Commodity Credit Corp.‡	.....	.....	1,619	1,714
Interior mills, elevators & warehouses* §	2,686	3,851	4,319	3,806
Total	9,227	21,541	32,568	25,356
Corn—				
On farms*	2,154,757	2,144,305	359,346	2,070,187
Terminals†	62,039	43,106	18,052	60,218
Commodity Credit Corp.‡	243,717	394,060	467,837	515,887
Interior mills, elevators & warehouses* §	97,948	100,591	74,437	152,516
Total	2,558,461	2,682,062	919,672	2,798,808
Oats—				
On farms*	786,560	773,516	1,182,323	922,637
Terminals†	25,041	18,295	26,377	20,055
Commodity Credit Corp.‡	171	260	9,323	12,741
Interior mills, elevators & warehouses* §	47,614	44,471	78,555	60,874
Total	859,386	836,542	1,296,578	1,016,307
Barley—				
On farms*	98,680	108,490	226,695	165,805
Terminals†	13,415	12,659	23,495	27,517
Commodity Credit Corp.‡	513	28	3,732	6,057
Interior mills, elevators & warehouses* §	51,645	56,848	101,892	84,186
Total	164,253	178,025	355,814	283,565
Sorghum grain—				
On farms*	23,803	36,281	3,179	51,789
Terminals†	4,788	8,141	5,233	40,643
Commodity Credit Corp.‡	705	9	2,261	1,303
Interior mills, elevators & warehouses* §	24,789	34,765	11,348	95,278
Total	54,085	79,196	22,021	189,013

*Estimates of the Crop Reporting Board. †Commercial stocks reported by Grain Division, AMS, at 44 terminal cities. ‡Owned by CCC and stored in bins, ships or other storages owned or controlled by CCC, also CCC-owned grain in transit to ports; other CCC-owned grain is included in the estimates by positions. ¶Mills reporting to the Bureau of the Census on millings and stocks of flour. §All off-farm storages not otherwise designated for each grain.

1955 FEEDSTUFFS ANALYSIS TABLE

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This chart is published to assist feed manufacturers and students of nutrition in formulating feeds. The values given are not average, but carry a "margin of safety" so that the feed should contain at least as much protein, fat, minerals and vitamins, and not as much fiber as the final calculations show.

Protein %	Fat %	Fiber %	Calcium %	Phosphorus %	Feedstuff—	Productive Energy, Calories per lb.	Milligrams, per lb. Riboflavin	Niacin	Pantothenic acid	Choline
20	2.5	18.0	1.70	.30	Alfalfa leaf meal (dehydrated)	300	8.00	20.0	17.0	500
20	2.5	18.0	1.70	.22	Alfalfa leaf meal (suncured)	300	7.00	19.0	16.0	500
17	2.0	25.0	1.50	.20	Alfalfa meal (dehydrated)	260	7.00	14.0	14.0	400
15	1.5	30.0	1.40	.20	Alfalfa meal (dehydrated)	240	7.00	12.0	12.0	400
13	1.5	33.0	1.20	.20	Alfalfa meal (either type)	230	5.00	9.0	10.0	300
11.5	2.0	6.0	.05	.30	Barley	800	0.70	24.0	3.0	400
9	2.0	6.0	.06	.30	Barley (Pacific Coast)	800	0.50	20.0	3.0	400
20	1.0	4.0	.10	.40	Beans (navy cull)	450	1.00	12.0	0.5	...
8	.5	20.0	.65	.05	Beet pulp, dried	220	0.30	8.0	0.5	...
80	1.0	1.0	.30	.25	Blood meal	1,000	1.40	18.0	2.3	300
24	6.0	15.0	.20	.45	Brewers dried grains	...	.30	18.0	6.0	...
45	.5	2.0	.10	1.50	Brewers dried yeast	600	14.00	225.0	50.0	2,000
11	2.0	10.0	.04	.30	Buckwheat	700	0.20	20.0	...	...
32	5.0	0.0	1.30	1.00	Buttermilk, dried	700	12.00	7.5	19.0	500
6	2.5	15.0	2.00	.10	Citrus pulp, dried	420	1.00	9.0	6.0	...
20	6.0	11.0	.20	.60	Coconut oil meal (copra meal)	600	.60	13.0	3.0	500
8.4	3.8	2.5	.01	.25	Corn (yellow)	1,100	.50	9.0	3.4	200
7	3.0	8.0	.01	.25	Corn and cob meal (yellow)	...	...	...	...	...
2.3	1.0	30.0	...	...	Corn cobs	...	...	...	...	...
20	4.0	10.0	...	...	Corn germ meal	1,100	2.00	15.0	5.0	800
21	1.6	8.0	.30	.70	Corn gluten feed	550	1.20	30.0	4.0	500
41	1.5	4.0	.10	.40	Corn gluten meal	820	0.70	20.0	5.0	200
18.5	1.0	11.5	.08	.30	Corn oil meal (solvent)	840	2.00	19.0	1.5	...
36	4.0	16.0	.10	1.25	Cottonseed oil meal	580	1.80	20.0	6.5	1,200
41	4.0	13.0	.10	1.25	Cottonseed oil meal	620	1.80	20.0	6.5	1,200
41	1.5	13.0	.10	1.25	Cottonseed oil meal (solvent)	520	2.00	20.0	6.5	1,200
26	8.0	12.5	.09	.40	Distillers dried grains (light) (corn)	...	1.00	14.0	2.0	350
27	8.0	9.0	.25	1.00	Dist. dried grains with solubles (corn)	...	3.00	30.0	5.0	1,000
28	6.0	3.0	.40	1.50	Distillers dried solubles (corn)	780	6.00	56.0	10.0	2,000
66	8.0	1.5	4.50	3.00	Fish meal, herring	900	2.00	...	...	2,200
60	9.0	1.0	5.00	3.20	Fish meal, menhaden	850	2.00	25.0	4.0	1,400
57	6.0	1.0	8.00	4.00	Fish meal, red fish	800	4.00	28.0	3.0	1,500
65	6.0	1.0	4.50	2.50	Fish meal, sardine	820	2.50	30.0	3.0	1,300
63	2.0	1.0	6.50	3.50	Fish meal, white	800	4.00	30.0	3.0	700
32	3.0	0.0	.10	.80	Fish solubles, 50% solids	420	6.00	120.0	18.0	1,000
10	5.0	6.0	.02	.55	Hominy feed (yellow)	850	1.00	20.0	4.5	460
11	2.5	2.5	.02	.30	Kafir corn	1,040	0.50	18.0	5.0	200
10	2.0	7.0	.07	.20	Kafir head chops	...	...	...	...	...
10	2.0	27.0	1.00	.20	Lespedeza hay meal	...	...	...	...	...
32	3.5	8.0	.35	.75	Linseed oil meal (old process)	500	1.70	15.0	5.0	800
34	0.5	8.0	.35	.75	Linseed oil meal (solvent)	480	1.70	15.0	5.0	800
24	1.5	15.0	.20	.70	Malt sprouts, dried	...	2.30	20.0	20.0	1,000
45	9.0	2.5	11.00	5.50	Meat and bone scraps	700	2.40	20.0	2.0	600
50	9.0	2.5	10.00	5.00	Meat and bone scraps	720	2.50	21.0	2.0	750
55	9.0	2.5	8.00	4.00	Meat scraps	740	2.60	23.0	2.0	850
11	2.5	2.5	.02	.33	Milo maize	1,080	0.40	13.0	4.0	220
10	2.0	7.0	.04	.20	Milo head chops	...	0.80	...	...	...
7	0.0	0.0	.05	.02	Molasses, beet	...	...	20.0	...	...
3	0.0	0.0	.50	.05	Molasses, cane	700	1.00	20.0	17.0	300
0.5	0.0	0.0	.50	.05	Molasses, corn (hydrol)	...	...	...	...	...
12	3.5	12.0	.10	.36	Oats	750	0.40	5.0	3.5	425
9	4.5	12.0	.10	.35	Oats (Pacific Coast)	750	...	...	...	...
15.5	4.5	2.5	.10	.45	Oats (hulled), oat groats	1,150	0.50	4.0	4.0	550
15.5	4.5	2.5	.10	.45	Oats, feeding rolled	1,150	0.50	4.0	4.0	550
2	.5	36.5	.09	.10	Oat hulls	...	...	...	...	...
3.5	1.0	34.0	.25	.20	Oats, mill by-products	...	0.72	4.6	1.5	200
48	6.0	7.0	.20	.55	Peanut oil meal (expeller)	840	2.40	77.5	24.0	800
50	1.0	7.0	.20	.55	Peanut oil meal (solvent)	760	2.40	77.5	24.0	800
14	.6	15.5	1.10	1.35	Rice bran (solvent)	710	1.40	129.0	10.5	...
11	10.0	4.0	.04	1.10	Rice polishings	930	0.90	325.0	4.5	460
12	1.7	2.5	.01	.30	Rye	800	0.70	7.0	4.0	...
40	7.0	6.5	2.00	1.50	Sesame oil meal	600	1.50	...	2.5	680
40	2.0	11.0	7.00	1.25	Shrimp meal	...	...	...	...	...
34	.5	0.0	1.30	1.00	Skim milk, dried	540	9.00	5.0	15.0	500
36	19.0	4.5	.25	.60	Soybeans	...	1.20	10.0	5.0	1,300
42	3.5	6.0	.20	.60	Soybean oil meal (expeller)	600	1.40	8.0	4.5	1,100
45	.5	6.5	.20	.65	Soybean oil meal (solvent)	550	1.30	9.0	5.5	1,200
50	.5	3.0	.20	.60	Soybean oil meal	600	1.2	9.5	6.0	1,300
5	.8	4.0	.27	.25	Sweet potato meal (dehydrated)	...	0.95	11.8	...	...
60	8.0	3.0	6.00	3.00	Tankage	670	1.00	18.0	1.1	1,000
11.5	1.8	3.0	.05	.40	Wheat, hard	1,020	0.55	24.0	4.5	350
10	1.8	3.0	.05	.40	Wheat, soft western	1,000	0.53	26.0	4.5	300
14	3.5	11.0	.10	1.20	Wheat bran	410	1.00	65.0	12.0	460
16	3.5	6.5	.05	.70	Wheat, flour middlings, gray shorts	650	0.60	40.0	4.5	450
26	8.0	2.5	.01	1.00	Wheat, germ meal	780	2.20	23.5	3.5	1,500
15	3.5	9.0	.10	.90	Wheat, mixed feed	570	0.70	50.0	6.0	450
16	3.5	3.0	.10	.50	Wheat, red dog	1,000	0.45	25.0	6.0	450
15	3.5	8.0	.10	.90	Wheat, standard midds., brown shorts	510	0.80	44.0	8.0	460
14	2.0	1.0	.05	.50	Wheat, flour second clears	950	0.45	25.0	6.0	450
12	.5	0.0	.80	.70	Whey, dried cheese	500	12.00	5.0	20.0	700

ANALYSIS OF MINERALS

	Calcium %	Phosphorus %
Bone meal, steamed	24	12.0
Bone meal, special steamed	26	13.0
Defluorinated super phosphate	31	13.0
Defluorinated rock phosphate	34	14.5
Defluorinated treble phosphate	30	18.0

Use the figures as guaranteed by the manufacturer.

	Calcium %	Phosphorus %
Phosphate with colloidal clay	18	9.0
Curacao Island phosphate	35	15.0
Di-calcium phosphate	26	18.0
Limestone, 98% cm. carb. and oyster shell flour	38	00.0

Notes on the Feedstuffs Analysis Table

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Feed Formulation

It is suggested that before any attempts are made in formulating feeds that the nutritive requirements for livestock and poultry as outlined in the pamphlets published by the National Research Council be thoroughly studied. Copies of these pamphlets may be obtained from the National Research Council, 2101 Constitution Ave., N.W., Washington 25, D.C.

For feeds that are to be fed with grain, be sure that informulation allowance is made for dilution of the ration with grain, and supply extra nutrients in the formula so that the total ration fed will supply the animals' nutritive requirements.

Productive Energy

The productive energy column included in the 1955 Feedstuffs Analysis Table gives the approximate values for poultry. Tables for swine and ruminants show quite different values and it is important that you use the proper table for the specific animal for which the feed is formulated. For example, the oat hull value is zero for poultry but for cattle or sheep oat hulls may contain an appreciable amount of energy.

Vitamin A—Carotene

Figures given below show carotene content of natural feedstuffs which contribute appreciable quantities of carotene to rations. The vitamin A activity which you can count on is derived from carotene and will therefore vary with the various animals fed. Poultry utilize carotene more efficiently than most 4-footed animals. In the vitamin A table below are the figures you can use in calculating the poultry rations. Do not use this table for 4-footed animals.

For 4-footed animals figure total mg. of carotene.

	Per Pound mg. Carotene	Per Pound Vit. A
Dehydrated alfalfa leaf meal, 20%	48	80,000
17% (100,000 A guar.)	60	100,000
17% (not guar.)	36	60,000
15% (not guar.)	24	40,000
13% (not guar.)	6	10,000
Yellow corn	6	1,000
Corn gluten feed	6	2,000
Corn gluten meal	6	10,000
Hominy feed	6	1,000

Corn, corn gluten feed and meal and hominy will generally contain more carotene than is shown in the table above, but much of this carotene may be in the form of carotenoids with little vitamin A activity so the figures above may be used in estimating the presence of vitamin A active carotene.

Alfalfa

Where dehydrated alfalfa meal has been used to supply a major portion of the vitamin A activity through its carotene content, it is important to know how much carotene is being supplied. A laboratory analysis should be made at the time the alfalfa is to be used.

Vitamin B_{12}

The range of active vitamin B_{12} present in natural feedstuffs is quite wide, and it is felt that it may be unwise to count too heavily on B_{12} contributions from natural feedstuffs unless the natural feedstuffs are guaranteed to furnish B_{12}. Feedstuffs in the table which contain appreciable Vitamin B_{12} are shown below.

Feedstuff	Range of B_{12} activity
Fish meal	.03-.15 milligrams/lb.
Fish solubles	.05-.22 milligrams/lb.
Meat and bone scraps	.01-.05 milligrams/lb.
Meat scraps	.01-.10 milligrams/lb.
Tankage	.02-.10 milligrams/lb.

Safety Factor

An allowance for losses in vitamin potency during the time the feeds are in transit and storage, whether in the manufacturer's plant, the dealer's warehouse, or the customer's feed room, should be considered. The fat soluble vitamins A and D are generally the least stable and extra high levels of these two vitamins should be incorporated in the feed formulas when losses are likely to be high. High losses are promoted by long storage time, high temperatures, high mineral content, and rancidity of ingredients. Consideration should be given to use of stabilized vitamins where these conditions prevail.

Other vitamins should be increased over and above those shown in the standard N.R.C. allowance tables where later research work shows increases are desirable. In some cases the vitamin content of certain ingredients used in your feed formulas may be poorly utilized or unavailable to the animals fed.

Quick Conversion Table for—Vitamin A

U.S.P. Units Per gram	Per lb.
500	272,400
1,000	454,000
2,000	908,000
3,000	1,362,000
4,000	1,816,000

Conversion Tables

1 pound=454 grams

1 ounce=28.4 grams

1 gram=1,000 milligrams

1 milligram=1,000 micrograms, also call gammas (γ).

1 microgram per gram equals 1 part per million.

.3 microgram of Vitamin A=1 unit of Vitamin A.

To convert milligrams per gram to milligrams per pound multiply by 454.

To convert micrograms per gram or per pound to milligrams per gram or per pound divide by 1,000.

To convert milligrams per pound to micrograms per gram or parts per million divide by .454 or multiply by 2.2.

Vitamins D_2 and D_3

Irradiated yeast or plant sterols provide Vitamin D_2 which is excellent for 4-footed animals but not suitable for poultry.

Vitamin D from irradiated animal sterols (D-activated animal sterol) or that from fish liver oils provides Vitamin D_3 which is suitable for both poultry and 4-footed animals.

Quick Conversion Table for—Vitamin D

A.O.A.C. Units Per gram	Per lb.	Lb. per ton of feed	Am't of D per lb. of finished feed
85	38,590	18	366.6
100	45,400	16	363.2
200	90,800	8	363.2
250	113,500	6.4	363.2
400	181,600	4	362.2
800	362,200	2	363.2
1,000	454,000	1.6	363.2
2,000	908,000	0.8	363.2

Fats in Feeds

Many feed manufacturers will want to use fats or oils in feeds. While some types of fats and oils may contribute some fat soluble vitamins, it is safer to figure that fat and energy are all that is contributed by fats and oils. Digestibility of fats by poultry will vary quite widely. Fraps proposes a value of 2100 calories per pound be used in calculating the energy content of fat. Hill shows that the value may approach 2900 calories per pound in certain cases. These variations may possibly be explained by the different types of fats used and by variations in digestibility when used with different rations.

Be sure your fats are stabilized to prevent rancidity.

Amino Acids

In general the most efficient rations for non-ruminants contain a good balance of amino acids. Amino acids, unlike vitamins, are not stored in the body organs for future use. Thus the total ration ingested at one time must be well balanced from the amino acid standpoint. The total amino acid content of a ration may be calculated, but unfortunately this does not tell how much of each is nutritionally available to the animal. The calculations will show where deficiencies exist.

Acknowledgment

Data for the preparation of the Feedstuffs Analysis Table has been received from many laboratories throughout the country. To the chemists and research workers that have so graciously cooperated in supplying this information, we wish to express our sincere gratitude and thanks.

State Laws for Feedstuffs

Note: The following summary of state laws regarding the sale of formula feeds has been made on the basis of information received up to Jan. 1, 1955. Manufacturers doing an interstate business are advised to communicate with the state officials indicated in this summary for further details and for information concerning possible changes.

ALABAMA

Registration is required annually on or before Oct. 1, or before offered for sale; fee $2 per brand. Inspection fee is 20¢ per package or (by permit) on or before the 20th of each month for the tonnage and kind of commercial feed sold the preceding month. All feedstuffs used for feeding domestic or wild animals and domestic or wild birds require registration; except whole seeds or grains, unmixed meals made directly from entire grains of corn, wheat, rye, barley, oats, buckwheat, flaxseed, kaffir and milo when packed for human consumption, whole hays, straws, cottonseed hulls and corn stover when unmixed with other materials. Deposit of samples is not necessary unless requested. Label must show net weight, name, brand or trademark, name and address of manufacturer, jobber or importer, minimum percentage of crude protein and fat and nitrogen-free extract, maximum percentage of crude fiber, names of ingredients and percentage of each mineral or chemical added, when added in excess of 0.1% in feed. Prohibited ingredients of commercial feeds are: rice hulls, oat hulls, cottonseed hulls, peanut hulls, barley hulls, coconut hulls (so called coconut hull meal), grit, oyster shell containing less than 95% calcium carbonate, weed seeds, mill oats or wild oats, ground straw, sugar cane bagrains, hays, straws and unmixed whole gasse (sugar cane pumice), corn cobs or shucks, and other materials which have little or no nutritional value, except as specifically provided by regulation. Weight standards: 5 and 8½ lb. when packed 12 to a bale, 10, 25, 50, 100, 150 and 200 lb. Administrative officer: Commissioner of Agriculture and Industries, Montgomery.

ARIZONA

Inspection fee is 8¢ ton. Registration is required annually on or before Jan. 1 (no fee) on all materials for feeding animals or birds except unmixed whole seeds or grains, unmixed meals made directly from the entire grains of corn, wheat, rye, barley, oats, buckwheat, flaxseed, kaffir, milo, and other grain sorghums, unground hays, straws, cottonseed hulls, stover and silage when unmixed with other materials. Sufficient tax tags or stamps must be delivered to cover sale and a statement containing label information for all goods sold in bulk or in packages belonging to purchaser. Deposit of samples is not necessary unless requested. Label must show net weight, name, brand or trademark, name and address of manufacturer or person responsible for marketing; minimum percentages of crude protein and fat; maximum percentage of crude fiber; specific name of each ingredient, mineral feeds must also bear label showing percentage of calcium, phosphorus and iodine and maximum per cent of salt. Administrative officer: State Chemist, University of Arizona, Tucson.

ARKANSAS

Inspection fee is 10¢ a ton payable quarterly on sworn statement of tonnage. Registration is permanent, no fee, but each brand of feeds must be registered, except whole grains, hays, straws and unmixed whole seeds or grains of cereals. Deposit of samples is not necessary unless requested. Each package of commercial feed must have attached thereto a tag, or label printed on package, showing net weight, name, brand or trademark, name and address of manufacturer, jobber or importer, minimum percentages of crude protein, crude fat, maximum percentage of crude fiber; names of each and all ingredients; standard weights: 5, 10, 25, 50, 75, 80 and 100 lb. Administrative officer: State Plant Board, 506½ Center St., Little Rock.

CALIFORNIA

Annual license of $5 for each plant is due by July 1, or before offered for sale. inspection tax is 4¢ a ton, payable with stamps, tags, or through an optional permit system direct to the department, quarterly. All feedingstuffs subject to the law used for feeding livestock and poultry require labeling, except whole seeds or grain, when unmixed, fresh green roughage and unprocessed liquid milk in all its forms; whole hays, straws, cottonseed hulls, corn stover and wet citrus residue, when unprocessed and unmixed with other materials; wet garbage, and salt except in block or chunk form; and preparations which are sold as or represented to be primarily for the cure or mitigation of disease, and preparations which are sold for feeding domestic pets, such as dogs, cats and birds. Payment of tonnage tax must be indicated on the tag, either by the use of tonnage tax stamps or the official tonnage tax paid insignia printed on tags by tag companies or printers authorized to print this official tonnage tax paid insignia. Deposit of sample is not required. All packages must be labeled to show net weight; name, brand or trademark; name and address of manufacturer or person placing commodity on market; minimum percentages of crude protein, crude fat; maximum percentages of crude fiber and ash; recognized official name of each ingredient; percentage of corn cobs, oat hulls, barley hulls, rice hulls, ground light rice or similar materials; maximum percentage of mineral matter contained; and in the case of mixed feeds containing more than 5% mineral ingredients, minimum per cent of calcium (Ca), phosphorus (P), iodine (I), and the maximum percentage of salt if same be added; and maximum percentage of salt in any mixed feeds if more than 2% of salt is added. In the case of commercial feedingstuffs for which special qualities are claimed, such as vitamin potency, amino acid content, or protein quality, a definite guarantee relative to such quality. In cases where simple animal protein concentrates are sold or distributed the quality index of such protein may be certified to in addition to the minimum percentage of crude protein. Administrative officer: Director, Department of Agriculture, Sacramento 14.

COLORADO

Registration is permanent at $2 for each brand with inspection fee 10¢ ton. All feedstuffs must be registered, except unmixed whole seeds or grains, unmixed meals made directly from and consisting of entire grains of corn, wheat, rye, barley, oats, kafir and milo, or a mixture of any two of the foregoing; whole hays, straws, sugar beet by-products, ensilage and cane molasses when unmixed with other materials.

Deposit of sample is not necessary unless requested. The label, either on tag or printed on package, must contain net weight; name, brand or trademark; name and address of person responsible for placing commodity on market; minimum percentage of crude protein, fat and nitrogen-free extract; maximum percentage of crude fiber; specific name of ingredients. Administrative officer: Commissioner of Agriculture, Denver.

CONNECTICUT

Annual registration is required on or before Jan. 1, or before goods are offered for sale; fee $15 per brand. No wire or metal may be used in affixing tags or labels. Label either on tag or printed on package, must show net weight and name, brand or trademark; name and address of manufacturer or importer; minimum percentages of crude protein, crude fat, and the maximum percentage of crude fiber; and name of each ingredient. Materials requiring registration are: linseed meals, cottonseed mals, pea meals, bean meals, coconut meals, gluten meals, gluten feeds, dried brewers' grains, dried distillers' grains, malt sprouts, dried beet pulp, hominy feeds, cerealine feeds, rice meals, alfalfa meals, oat feeds, corn and oat chop, corn and oat feeds, digester tankage, ground meat scraps, ground fish scraps, mixed feeds, provenders, bran, middlings and mixed feeds made wholly or in part from wheat, rye or buckwheat and all materials of a similar nature intended for feeding of domestic animals, including poultry. Deposit of samples is not required. Administrative officer: Director, Agricultural Experiment Station, New Haven.

DELAWARE

Annual calendar year registration is required for each brand or before goods are offered for sale; registration fee $1 per brand. Feeds in packages or cans of 10 lb. or less may be registered for $10 per brand annually without tonnage tax. Report of total sales of each brand is required on or before Feb. 1 of each year, with payment of inspection fee at 10¢ per ton. Each package must be plainly marked on tag or printed on package with net weight of contents; name, brand or trademark; name and address of manufacturer or dealer; minimum percentage of crude protein and crude fat; maximum percentage of crude fiber; specific name of each ingredient. All materials used for feeding animals or birds require registration; except unmixed whole seeds or grains; unmixed meals made directly from the entire grains of corn, wheat, rye, barley, oats, buckwheat, flaxseed, kafir, milo and other seeds or grains; whole hays, straws, cottonseed hulls, ensilage and corn stover when unmixed with other materials. Deposit of samples is not necessary unless requested. Administrative officer: Secretary, State Board of Agriculture, Dover.

FLORIDA

Registration is annual, under oath on or before Jan. 1 or before feeds are offered for sale. Inspection fee is 25¢ per ton.

DOG, FOX, MINK, CAT FOOD

=INGREDIENTS=

Ward's Kibbled Corn
Ward's Kibbled Wheat
Ward's Kibbled Premix: 70% Corn, 30% Wheat
All Three—Regular Coarse "A"—Pea Size
Regular Fine—"B"
Chip Size—"C"
Ward's Kibbled Crumbled Pellets

CEREAL TAILINGS
WHEAT GERM
WHEAT GERM OIL MEAL
WHEAT GERM OIL
CARROT MEAL

DRIED MILKS—WHEY
BREWERS YEAST
TOMATO PULP
APPLE POMACE
LIVER MEALS

DEHY. BREAD MEAL
BREAD SLICING CRUMBS
MIXED COOKIE MEAL
ICE CREAM CONE MEAL
CKED. PEARLED BARLEY

DOGS GO FOR FOODS CONTAINING
WARD'S KIBBLED PRODUCTS
Makes Any Good Dog Food Better

WARD FEED CO.
COMMERCE BLDG.

GLEN ELLYN, ILL.
Phone 3440-1-2

Seller must use special tags, except that packages of less than 25 lb. may carry inspection stamps in lieu of tags. Feeds for mixing purposes only are exempt from inspection fee, but must carry tags stating they are for mixing only and that the tax has not been paid. Registration is required of all materials used for feeding animals and birds, except unmixed whole seeds or grains, as defined by U.S. grain standards, and whole hays, straws, cottonseed hulls, stover, silage, etc., except that these "latter materials when ground, either mixed or unmixed, shall be registered as commercial feeds." Each package must have a tag or label attached stating the net weight, brand or trade name of the feed, name and address of the manufacturer or person responsible for placing commodity on market, minimum percentage of crude protein, crude fat, maximum percentage of crude fiber, name of each ingredient used in its manufacture, and the minimum or maximum percentage of added minerals as required by regulation. Deposit of samples is not required. Printing on package is optional, use of tag or label is "mandatory." Metal fasteners on tags are prohibited except on poultry feeds. Any manufacturer, importer, dealer, agent or seller of commercial feeds in Florida may make application to the commissioner of agriculture of Florida for a permit to report the tonnage of commercial feeds sold and pay the inspection fee of 25¢ ton as in this chapter provided, as the basis for said report, in lieu of affixing or furnishing inspection fee tags or stamps. The commissioner of agriculture may, in his discretion, grant such permit. The issuance of all permits will be conditioned on the applicant satisfying the commissioner of agriculture that he has a good bookkeeping system and keeps such records as may be necessary to indicate accurately the tonnage of commercial feeds sold in the state and as are satisfactory to the commissioner of agriculture and granting the commissioner, or his duly authorized representative, permission to examine such records and verify the tonnage statement. The tonnage report shall be monthly and the inspection fee shall be due and payable monthly, on or before the 25th day of each month covering the tonnage and kind of commercial feeds sold during the last preceding month. The report shall be under oath and on forms furnished by the commissioner. If the report is not filed and the inspection fee paid on the date due or if the report of tonnage be false, the amount of inspection fee due shall bear a penalty of 10% which shall be added to the inspection fee due and shall constitute a debt and become a claim and lien against the cash deposit or securities or bond which may be required. Failure to make an accurate statement of tonnage or to pay the inspection fee or comply as provided herein shall constitute sufficient cause for revocation of the permit and also for cancellation of all registrations on file for the permittee. That in order to guarantee faithful performance with the provisions of this subsection each applicant shall, before being granted a permit to use the reporting system, deposit with the commissioner of agriculture cash in the amount of one thousand ($1,000.00) dollars or securities acceptable to the commissioner of a value of at least one thousand ($1,000.00) dollars or shall deposit with the commissioner a surety bond in like amount executed by some corporate surety company authorized to do business in Florida. The commissioner shall approve all such securities or bonds before acceptance. In the event the permittee for any reason discontinues operating under the provisions of this subsection (b) of Section 580.15, Florida Statutes, and there is no liability against the bond posted by the permittee as herein required, the said bond or deposit shall thereupon be returned to the permittee. The manner and method of labeling to show the information required by Section 580.03 shall be provided by the permittee and shall be acceptable to the commissioner of agriculture. Administrative officer: Commissioner of Agriculture, Tallahassee.

GEORGIA

Brands must be registered annually by Jan. 1 with registration fee of $2 for each brand. Inspection fee is 20¢ ton and may be paid monthly by the reporting system. Stamps are to be secured from the state Department of Agriculture and affixed to the tags or labels. Materials requiring registration are: Cottonseed meal, linseed meal, corn and cob meal, coconut meal, gluten feeds, gluten meal, germ feeds, corn feeds, starch feeds, sugar feeds, dried brewers' grains, malt sprouts, dried distillers' grains, dried beet refuse, hominy feed, cerealine feeds, rice meals, rice brans, rice polish, peanut meal, oat feeds, corn and oat feeds, corn bran, wheat bran, wheat middlings, wheat shorts, ground beef or fish scraps, mixed feeds, clover meal, alfalfa meal and feeds, pea vine meal, cottonseed meal feeds, whole seeds and grains and meals, mixed or unmixed, made from such seeds or grains, and all other materials of a similar nature. Every package must have a tag or label stating net weight, name, brand or trademark, names of ingredients, name and address of the manufacturer, jobber or importer, and statement of maximum percentage of crude fiber and minimum percentage of crude fat and crude protein, names of ingredients. (This requirement is a regulation of the department. Statute does not require information.) Tag must be printed in black ink attached to package; or information may appear in form of printing on package. Deposit of samples is not necessary unless requested. Standard weights: 50, 75, 100, 125, 150, 175 and 200 lb. Administrative officer: Commissioner of Agriculture, Atlanta.

IDAHO

Registration for each brand is required before distribution; fee to be determined each year but not to exceed $5 for any one year. All feedingstuffs used in feeding livestock, fur bearing animals and poultry require registration, except unmixed meals made directly from and consisting of entire grains of corn, wheat, rye, barley, oats, buckwheat, flaxseed, grain sorghums, peas and beans; whole hays, straws, cottonseed hulls, corn stover; ground or whole mill screenings when unmixed with other materials. Label either in form of printing on package or tag attached to package, must show net weight of the contents of the package, lot or parcel; name, brand or trademark; name and principal address of the manufacturer or distributor; minimum percentage of crude protein, minimum percentage of crude fat; maximum percentage of crude fiber and ash, maximum percentage of grit and shell or other mineral matter added and specific name of each ingredient used in its manufacture. Upon request a sealed package containing at least one pound of the commercial feedingstuffs to be sold in this state is deposited, with affidavit that the said sample is representative of the commercial feedingstuffs offered for registration. Administrative officer: Commissioner of Agriculture, Boise.

ILLINOIS

Registration fee is $25 for each brand or $1 for each brand plus a 10¢ tonnage tax for each calendar year or portion thereof. Feeds intended for mixing purposes only must be registered and guaranteed under the $1 license fee; however, if tagged, "For Mixing Purposes Only," are exempt from payment of tonnage tax. Registration must be made annually on or before Jan. 1 or before offering goods for sale. Registration is required for all materials used for feeding animals or birds, except: whole seeds or grains; unmixed meals made directly from and consisting of the entire grains of corn, wheat, rye, barley, oats, buckwheat, flaxseed, kafir and milo; whole hays, straws, cottonseed hulls, corn stover and silage. Samples, not to exceed two pounds, must be taken in duplicate; one sample to be delivered to owner. Each package must be labeled showing net weight of contents; name, brand or trademark; name and principal address of the manufacturer or person responsible for placing commodity on market; minimum percentage of crude protein and crude fat; maximum percentage of crude fiber; name of ingredients; minimum percentage of calcium, phosphorus and iodine, and the maximum percentage of salt. If any foreign substance is added to "mixed feeds," composition of the mixture must be plainly indicated on the label. Administrative officer: Superintendent, Division of Foods, Dairies and Standards, Springfield.

INDIANA

No inspection fee, but state tags or labels must be used except on brands sold in packages of 5 lb. or less. Labels are issued for 25, 50 and 100 lb.; minimum order of $5. In case a feedingstuff is sold in packages of 5 lb. or less the manufacturer may pay an annual registration fee of $20 per brand in lieu of attaching Indiana state labels to each package of five pounds or less. In such cases the manufacturer's label on package must give the information required to appear on packages. Materials requiring registration are: linseed meals, coconut meals, gluten feeds, gluten meals, germ feeds, corn feeds, maize feeds, dairy feeds, starch feeds, sugar feeds, dried brewers' grains, malt sprouts, dried distillers' grains, dried beet refuse, hominy feeds, cerealine feeds, rice meals, rice bran, rice polish, peanut meals, oat feeds, corn and oat feeds, corn bran, wheat bran, wheat middlings, wheat shorts, and all other mill byproducts not otherwise excluded; ground beef or fish scraps, dried blood, blood meals, bone meals, tankage, meat meals, slaughter house waste products, mixed feeds, clover meals, alfalfa meals and feeds, pea vine meal, cottonseed meal, velvet bean meal sucrene, mixed feeds and mixed meals made from seeds or grains, and all other materials of similar nature used for food for domestic animals; condimental feeds, poultry feeds, stock feeds, patented, proprietary or trade and market stock and poultry feeds. Exempted are: straw, whole seeds, unmixed meals made directly from and composed of entire grains of wheat, rye, barley, oats, Indian corn, buckwheat, and broom corn, wheat flours or other flours. Deposit of samples is not required. All packages must have official state chemist's label attached to package unless package is 5 lb. or less, showing net weight, name, brand or trademark, name and address of manufacturer, minimum percentage of crude protein and fat, maximum percentage of crude fiber and names of ingredients. Word "manufacturer" is understood to be party registering feed for sale. Goods sold in bulk must be registered and a sufficient amount of state chemist labels furnished to cover amount so sold. Administrative officer: State Chemist, Purdue University Agricultural Experiment Station, La Fayette.

IOWA

Before any formula feed is offered or exposed for sale or sold an annual registration fee of 50¢ per brand must be paid to the department. All formula feeds and feed ingredients including poultry shells or poultry limestone for feeding domestic animals and poultry require registration except hay, straw, whole seeds, unmixed meals made from the entire grains of wheat, rye, barley, oats, Indian corn, buckwheat and broom corn; flours fit for human consumption. Unadulterated wheat, rye and buckwheat bran, shorts or middlings of Iowa manufacture require registration but not inspection fee. Dealers to furnish sample upon request accompanied by affidavit that it is a fair average sample of materials it represents. Label, either on tag or printed on package, must state net weight of contents; name, brand or trademark; name and principal address of manufacturer or dealer; minimum percentage of crude protein, crude fat and maximum percentage of crude fiber, names of each ingredient; minimum percentage of phosphorus (P), iodine (I) and the maximum percentage of calcium (Ca) and salt (NaCl), in mineral feeds and in mixed feeds containing more than 5% mineral ingredients. Statement must be filed on or before Jan. 15 and July 15, which sets forth the number of net tons sold or distributed in state during six preceding calendar months; and upon such statement pay to the department 10¢ for each such ton sold in the state during that period. Administrative officer: Secretary of Agriculture, Des Moines.

KANSAS

Registration is required for each brand and is permanent; no fees. All feedingstuffs must be registered; limestone and shell products when used for feeding livestock and poultry, except whole seeds or grains, unmixed meals made directly from and consisting of entire grains of corn, wheat, rye, barley, oats, buckwheat, flaxseed, kafir and milo, whole hays, straws, corn stover, and cottonseed hulls when unmixed with other materials, all other materials consisting of 60% or more of water. Inspection fee is 6¢ per ton; fee may be paid by tag or stamp on each package, or on Jan. 1 and July 1 if a permit to do so is obtained. Label must state net weight of contents; name of feedingstuff; name and principal address of manufacturer and specific name of each ingredient. In addition, organic feeds must show: minimum percentage of crude protein and crude fat, maximum percentage of crude fiber; inorganic feeds must show minimum percentage of calcium, phosphorus and iodine and maximum percentage of salt. Mineralized feeds must show minimum percentage of crude protein, crude fat, calcium, phosphorus and iodine and maximum percentage of crude fiber and salt. Deposit of samples is not necessary unless requested. Administrative officer: Secretary, State Board of Agriculture, Topeka.

KENTUCKY

Inspection fee is 20¢ ton. Registration is permanent unless called for by the department at beginning of some calendar year; no fee. Registration is required for linseed meals, corn and corn cob meals, coconut meals, gluten feeds, gluten meals, germ feeds, corn feeds, starch feeds, sugar feeds, dried brewers' grains, malt sprouts, dried distillers' grains, dried beef refuse, hominy feeds, cerealine feeds, rice meals, rice bran, rice polish, peanut meals, oat feeds, corn and oat feeds, corn bran, wheat bran, wheat middlings, wheat shorts and

other mill products, ground beef or fish scraps, mixed feeds, clover meal, alfalfa meal and feeds, pea vine meals, cottonseed meal, velvet bean meal, feeds and meals mixed or unmixed made from seeds or grains, and all other materials of similar nature used for food for domestic animals, condimental feeds, poultry feed, stock feeds, patented, proprietary or trade and market stock and poultry feeds. Deposit of samples is not required. Label must state net weight of contents, name and address of manufacturer, name, brand, or trademark, minimum percentages of protein and fat and maximum percentage of crude fiber, the specific name of each ingredient, and kind and amount of adulterants. Standards have been made for many by-product feeds, including wheat feeds, and special purpose mixed feeds. If any material of little or no feeding value is used, the percentage of same must be given. If screenings and fillers are used, the percentage must be given and the statement whether ground or unground. The percentage of fillers must not exceed 25%. Package sizes: 10, 25, 50, 100 lb. Administrative officer: Bruce Poundstone, Feed & Fertilizer Dept., Kentucky Agricultural Experiment Station, University of Kentucky, Lexington.

LOUISIANA

Before any feed may be sold or offered for sale the guarantor must file the following information with the commissioner for each brand of feed to be sold in the state: net weight of contents of package, brand, name and address of guarantor, minimum percentage by weight of crude protein and crude fat, maximum percentage by weight of crude fiber, specific name of each ingredient used in manufacture of the feed, and a statement of guaranty as "shall be specified by ruling of the commissioner in case feeds claim dietary factors in forms not expressible by the foregoing or which are not adequately described thereby." Every lot or package of feed sold must carry a readily visible tag or label stating in "plain English" same information furnished to commissioner on registration. All feedingstuffs used for feeding livestock and poultry must be registered; except whole unmixed grains or seeds, whole hays, straw, chaff and hulls from grains or seeds, corn stover unmixed with other materials and other materials containing more than 60% water. Cottonseed meal, soybean meal or peanut meal sold or offered for sale for commercial feed must contain a minimum of 41% protein. Rice hulls, corn cobs, oat hulls, screenings and other fibrous material of low nutritive content may be present as ingredients of mixed feeds, provided every lot or package of feed containing these fibrous materials of low nutritive content sold in the state carry a readily visible tag or label, stating in plain English the maximum per cent by weight of these materials so contained therein. Weight standards: All feeds except poultry feeds, 100 lb. net per bag; poultry feeds, 10, 25, 50 and 100 lb. net per package. Inspection fee is 25¢ per ton; payments are made on the basis of tonnage reports. Tonnage reports and inspection fees are due and payable Dec. 1, March 1, June 1 and Sept. 1. Administrative officer: Commissioner of Agriculture and Immigration, Box 951, Baton Rouge.

MAINE

No inspection fee is required. Registration fee is $10 per year for each brand, annually by Jan. 1, or before offered for sale. Free registration for second year if sales are no more than 50 tons for year registered. All materials used for feeding livestock and poultry are required to be registered except: hays and straws, whole seeds and unmixed meals made directly from entire grains of wheat, rye, barley, oats, corn, buckwheat, flaxseed and broom corn. Label, either on tag or printed on package, must state net weight, name, brand or trademark, minimum percentage of crude protein, crude fat and maximum percentage of crude fiber; name and principal address of manufacturer or shipper; name of ingredients; name of any artificial coloring matter used. Deposit of samples is not necessary unless requested. Administrative officer: Commissioner of Agriculture, Augusta.

MARYLAND

Registration is annual by Jan. 1, or before goods are offered for sale; fee $15 per brand except that no fee is required on pure by-product millfeeds, pure corn and oat chop, pure corn bran and pure corn meal. All feedingstuffs used for feeding livestock and poultry are required to be registered except: whole seeds or grains, unmixed meals made directly from and consisting of the entire grains of corn, wheat, rye, barley, oats, buckwheat, flaxseed, kafir, and milo; whole unmixed hays, straws, cottonseed hulls, corn stover and silage. No inspection fee. Label, either in form of printing on package or on tag attached to package, must state net weight of contents; name, brand or trademark; name and principal address of manufacturer or dealer; minimum percentage of crude protein and crude fat; maximum percentage of crude fiber; specific name of each ingredient. Deposit of samples is not necessary unless requested. Administrative officer: State Chemist Maryland Inspection and Regulatory Service, College Park.

MASSACHUSETTS

Annual registration is required, by calendar years or before goods are offered for sale; fee $20 for each brand. All materials for feeding livestock and poultry containing not more than 60% water require registration, except whole seeds or grains, unmixed meals made directly from entire grains of corn, wheat, rye, barley, oats, buckwheat, flaxseed, kafir and milo, whole hays, whole straws, unground cottonseed hulls, and unground corn stover, when unmixed with other materials. Label, either on tag or printed on each package must state net weight of contents; name, brand or trademark; name and principal address of manufacturer or dealer; minimum percentage of crude protein and crude fat; maximum percentage of crude fiber; specific name of each ingredient. If the tag or label contains any claim of one or more dietary factors other than those specified in the act, such tag or label must bear a legible and plainly printed statement in the English language guaranteeing such claim. Deposit of samples is not required. Applications for registration and communications in regard to the law should be addressed to the official chemist. Administrative officer: Director, Massachusetts Agricultural Experiment Station, Amherst.

MICHIGAN

Annual registration is required by Jan. 1, or before goods are offered for sale; fee is $20 per brand for each "calendar year or portion thereof" for wholesale manufacturers; $10 per brand sold by retail manufacturers direct to consumer. Registration is required for all simple mixed, prepared, milled, compounded, processed or blended products together with all condimental and patented proprietary feeds used for feeding animals other than man, except unmixed whole seeds or grains, unmixed meals made directly from entire grains of corn, wheat, rye, barley, oats; cracked or rolled, screened or unscreened, corn, wheat and oats; whole hays, straws, ensilage and corn stover when unmixed with other materials, liquid byproducts from milk returned to farmers from cheese factories, skimming stations, creameries or other places where milk is received and the byproducts distributed. No stamps required. Each package must be labeled, either on forms of printing on package or tag attached, showing net weight; name, brand or trademark, name of actual manufacturer and place where manufactured or name and principal address of person responsible for placing commodity on market; minimum percentage crude protein; minimum percentage crude fat; except in case of meat and fish byproducts, when actual percentage must be declared allowing not more than 1% variation; maximum percentage crude fiber; specific name of each ingredient used in feed manufacture; percentage of each ingredient present in amount of less than 5%, in feeding molasses, minimum percentage of sugar and maximum percentage of ash; in semi-solid buttermilk, minimum percentage of total solids and milk fat; maximum percentage of ash and water; in wet brewers' and distillers' grains, in addition to protein, fat and fiber, maximum percentage of water; in mineral feeds, mixed or unmixed, minimum percentage of calcium, phosphorus, iodine and maximum percentage of salt. If no nutritional properties other than of a mineral nature is claimed, percentages of crude protein, crude fat and crude fiber may be omitted. Deposit of samples is not necessary unless requested. Administrative officer: Director of Agriculture, Lansing, Michigan.

MINNESOTA

Registration is permanent with no fee. On or before Jan. 31 of each year licensee must file sworn statement showing amounts of each brand of feed he has sold or offered for sale in the state during the previous year ending Dec. 31. Inspection fee is 15¢ per ton if paid (by permit) quarterly on sworn statement of sales. Otherwise, official tags or stamps must be used. Registration is

required for linseed meals, coconut meals, gluten feeds, gluten meals, germ feeds, corn feed, maize feeds, starch feeds, sugar feeds, dried brewers' grains, malt sprouts, dried distillers' grains, dried beet refuse, hominy feeds, cerealine feeds, rice meals, rice brans, rice polish, peanut meals, oat feeds, corn and oat feeds, corn bran, wheat bran, wheat middlings, wheat shorts, all other mill by-products not specifically excluded, ground beef or fish scraps, dried blood, blood meals, bone meals, tankage, meat meals, slaughter house waste products, mixed feeds, canned and dry dog foods, clover meals, alfalfa meals and feeds, pea vine meal, cottonseed meal, sunflower oil cake, velvet bean meal or any other leguminous meal, mixed feeds and mixed meals made from seeds or grain and all materials of similar nature used for food for domestic animals, condimental feeds, poultry feed, stock feeds, patented proprietary or trade marked stock and poultry feeds, mineral mixtures, iodized salts, dried or condensed buttermilks and skim milks, cod liver oils, vitamin D carriers and other vitamin supplements. Label, either in the form of printing on package or tag attached to package, must state net weight, name, brand or trademark, name of manufacturer, location of principal office of manufacturer, minimum percentage of crude protein and crude fat, maximum percentage of crude fiber and names of ingredients. Special guarantees are required for mineral feeds, salts, vitamin D carriers and other vitamin supplements. Deposit of samples is not required. Administrative officer: Commissioner of Agriculture, Dairy and Food, St. Paul, Minn.

MISSISSIPPI

Registration of brands is required annually on or before Jan. 1, or before offered for sale; fee $5 for each brand. Registrations are to be filed with commissioner at Jackson, and State Chemist, State College, Miss. No fee for registration with state chemist. Inspection fee, 20¢ ton. In lieu of affixing stamps, permit may be issued to file quarterly reports showing the total tonnage for sales for the preceding three months. Payment of inspection fee to be enclosed with each report. Reports due on Jan. 1, April 1, July 1 and Oct. 1. Report must be filed and inspection fee paid by the 30th day of the month following due date. Registration is required of cottonseed meal, so-called mineral feeds and all other feedingstuffs used for feeding animals and poultry, except whole unmixed seeds or grains, cottonseed hulls, unmixed meals made from and consisting of entire grains of corn (but not corn chops), wheat, barley, rye, oats, buckwheat, flaxseed, kafir and milo, whole hays, straws when unmixed with other materials, and all other materials when containing 60% or more of water. Each package must be labeled to show net weight of contents; name, brand or trademark; name and principal address of manufacturer or guarantor; minimum percentage of crude protein and crude fat; maximum percentage of crude fiber; specific name of each ingredient. Commissioner is required by law to collect $5 per ton on all commercial feed found to be deficient in protein and fat, or excessive in fiber (10% tolerance allowed for fiber in mixed feeds). The guarantor is allowed a tolerance of 4% in the sum of the protein fat before sample is declared deficient. Urea is permitted under certain conditions. Administrative officer: Commissioner of Agriculture and Commerce, Jackson, Miss.

MISSOURI

Registration is required annually by Jan. 1 for all feedingstuffs for livestock and poultry, including dog foods, except whole seeds or grains, unmixed meals made directly from entire grains of corn, wheat, rye, barley, oats, buckwheat, flaxseed, kafir and milo, whole hays, straws, cottonseed hulls and corn stover, pure corn chops and pure ground ear corn, when not mixed with other materials, and other materials containing 60% or more of water. Registration fee is $2 for each brand for each calendar year or portion thereof. An inspection fee of 8¢ per ton is required, payable semi-annually (no tax tags or stamps). Every package must be labeled showing (a) net weight of the contents of the package, lot or parcel; (b) name, brand, or trademark; (c) name and principal address of manufacturer or person responsible for placing commodity on market; (d) minimum percentage of crude protein; (e) minimum percentage of crude fat; (f) maximum percentage of crude fiber; (g) minimum percentage of nitrogen-free extract; (h) specific (common) name of each ingredient used in its manufacture. Information (a) to (g) must be furnished on card or cards to purchasers who buy in bulk. Weight standards: 5, 8⅓, 10, 25, 50, 100, 150 and 200 lb. net. Information may appear either in the form of printing on package or tag attached to package. Materials prohibited are rice hulls, chaff, peanut hulls, dirt, sawdust, weed seeds the viability of which has not been destroyed except in poultry feeds, more than 5% of mineral substances except in mineral feeds, other materials of little or no feeding value, substances injurious to the health of domestic animals or poultry. Ground or crushed corn cobs may be used in feeds for consumption by ruminant livestock if they are so labeled. Deposit of sample is not necessary unless requested. Administrative officer: State Department of Agriculture, Jefferson City, Mo.

MONTANA

Registration is required annually by Jan. 1 or before goods are offered for sale; fee $10 per brand of regular feeds and $15 for mineral feeds. All materials for feeding animals or poultry require registration except unmixed whole seeds or grains, mixed or unmixed meals made directly from and consisting of entire grains of corn, wheat, rye, barley, oats, buckwheat, flaxseed, kafir, milo and other seed or grain containing no other ingredients; whole, chopped or ground hays, straws, corn stover and silage, when unmixed with other materials and not pelleted; feeds sold in small quantities and used only for household pets except dogs; wet beet pulp, barley sprout and whole screenings. Any brand of commercial feed offered for sale or sold must have printed on or attached by tag a label stating the net weight; brand or trade name, name and principal address of manufacturer or person responsible for placing commodity on the market; minimum percentage of crude protein (protein from urea sources must be so stated); minimum percentage of crude fat; maximum percentage of crude fiber and name of each ingredient used in its manufacture. In the case of mixed feeds containing more than a total of 10% of one or more mineral ingredients, or other unmixed materials used as mineral supplements, and in the case of mineral feeds, mixed or unmixed, which are manufactured, represented and sold for primary purpose of supplying mineral deficiencies in rations for animals or poultry, and containing mineral ingredients generally regarded as dietary factors essential for normal nutrition, the minimum and maximum percentage of calcium (Ca), phosphorus (P), or Iodine (I), the percentage of salt must be stated for all feeds if it is in excess of 2%. Provided that if no nutritional properties other than those of a mineral nature be claimed for a mineral feed product, the percentage of crude protein, crude fat and crude fiber may be omitted. In the case of feeds containing for their principal claim dietary factors in forms not expressible by the foregoing, such claims must be expressed in a manner designated and in effect at the time by resolutions adopted by the Association of American Feed Control Officials. In all cases the true percentage of salt must be indicated. Deposit of samples is not required except on request accompanied by affidavit that it is a fair average sample of material it represents. Administrative officer: Director, Division of Grain Standards and Marketing, Department of Agriculture, Helena.

NEBRASKA

Permanent registration is required before feed is offered for sale; fee $1 per brand. Inspection fee is 10¢ ton, payable Jan. 1 and July 1. All feedingstuffs used for feeding livestock and poultry require registration except whole seeds or grains, whole unground hays, straws, cottonseed hulls and corn stover, when unmixed with other materials. Unmixed meals or chops made from whole grain to which nothing has been added or abstracted, when exchanged for whole grain of a like kind when manufactured, sold and delivered on premises of manufacturer, direct to the consumer. Each package must be labeled, either in form of printing on package or tag attached to the package, showing net weight; name, brand or trademark; name and principal address of manufacturer; minimum percentage of crude protein and crude fat; maximum percentage of crude fiber; specific name of each ingredient must be given if 5% or more of added mineral. Maximum and minimum calcium and salt, if present, must be declared. Administrative officer: Director, Department of Agriculture and Inspection, Lincoln.

NEVADA

Although no specific law exists, products bearing a guaranteed analysis must comply with such analysis or be in violation of the misbranding provisions of the State and Food Drug Law which requires that each package be labeled with a statement of net weight and name and place of business of manufacturer, packer or distributor. No registration is required. Administrative officer: Public Service Department, Division of Food & Drug Control, University of Nevada, Reno.

NEW HAMPSHIRE

Registration is annually during December; fee $15 per brand. Exemptions are (1) unmixed whole seeds and meals made directly from the entire seeds, (2) unground hay, and (3) whole or ground straw, stover, silage, cobs, and hulls when not mixed with other materials, (4) Custom and special mixed feeds (see law itself). Prohibited ingredients: (See law for adulteration). Package sizes are not specified. No inspection fee. Sales in bulk or in buyer's packages: Bulk feed must have label attached to weight slip and invoice or delivery slip, and shall accompany the delivery of the material; buyer's packages—buyer on request must be given label information.

Label may be either on tag or printed on package, and must contain the following information: Net weight; name, brand or trade-mark; the name and principal address of the person guaranteeing the feed; place of business; minimum percentage of crude protein, minimum percentage of crude fat and maximum percentage of crude fiber; the common or usual English name of each ingredient used in the manufacture of commercial feed shall be those defined by the Assoc. of American Feed Control Officials, Inc.; for mineral feeds the list shall include the following if added: minimum and maximum percentage of calcium, minimum percentage of phosphorus, minimum percentage of iodine, and minimum and maximum percentage of salt. Administrative officer: George H. Laramie, Feed Control Supervisor, Concord.

NEW JERSEY

Registration is required annually Jan. 1 or before offered for sale; fee, 50¢ per brand. On July 1 and Jan. 1 all firms or persons engaged in manufacture and sale of concentrated feedingstuffs must file with the administrative officer a certified statement, giving number of tons sold during preceding six months and pay inspection fee of 8¢ per ton, based upon said statement. Blanks for preparing such statement will be furnished by the administrative officer. All feeds must be registered, except whole seeds or grain sold as such and unmixed meals made directly from and composed of entire grains of corn, wheat, rye, barley, oats, buckwheat, flaxseed, kafir and milo, whole hays, straws, cottonseed hulls, and corn stover when unmixed with other materials. Label, either in form of printing on package or tag attached to package, must show net weight; name, brand or trademark; manufacturer's or dealer's name and address, minimum percentage of crude protein and crude fat, maximum percentage of crude fiber, names of ingredients. A tag or tags must not be attached to bags by means of wire or with metal fasteners. Deposit of samples is not necessary unless requested. Administrative officer: State Chemist, New Jersey Agricultural Experiment Station, New Brunswick.

NEW MEXICO

Registration is permanent; no fee. Inspection fee 12¢ per ton. All feeds intended for feeding livestock and poultry must be registered, except whole seeds or grains, whole hays, straws, cottonseed hulls, corn stover when unmixed with other materials; all other materials containing 50% or more of water. Label, either on tag or printed on package, must show net weight, name, brand or trademark; name and address of manufacturer or person responsible for placing commodity on market; minimum percentage of crude protein and crude fat; maximum percentage of crude fiber; percentage of nitrogen-free extract; specific names of ingredients. Registration sample (1 lb.) is required. Sufficient tax tags or stamps must be delivered to cover bulk sales and label statement. Administrative officer: Deputy in Charge, Feed and Fertilizer Control Office, State College.

NEW YORK

Registration is required annually on or before Jan. 1 or before goods are offered for sale. License fee is $25 for each brand for wholesalers (permits unlimited sales at wholesale); $10 for each brand for retailers (permits sales at retail to ultimate consumer at only one place in state, which place being designated on license). Registration is required for linseed meal, cottonseed meals, pea meals, bean meals, peanut meals, coconut meals, gluten meals, velvet bean meals, soybean meals, dried yeast grains, dried vinegar grains, corn germ meal, feeding molasses, gluten feeds, cottonseed feeds, maize feeds, velvet bean feeds, peanut feeds, dried distillers' grains, dried brewers' grains, malt sprouts, except as hereinafter provided,

Range of Millfeed Prices at Principal Cities in U.S.

Note: High and low millfeed prices by months, basis carload lots, prompt delivery, per ton, in 100-lb. sacks. Source: The Northwestern Miller

1954—	Chicago Spring Bran	Chicago Spring Std. midds.	Minneapolis Spring Bran	Minneapolis Spring Std. midds.	Kansas City Hard winter Bran	Kansas City Hard winter Flour midds.
January	$50.50@51.50	$51.00@52.00	$....@48.00	$47.00@47.50	$44.50@45.25	$....@....
February	52.00@52.50	52.50@53.00	....@48.50	48.50@49.00	45.25@45.75	....@....
March	53.00@53.50	54.00@54.50	50.00@51.00	51.00@52.00	46.25@47.00	....@....
April	59.50@61.50	61.50@62.50	....@57.00	57.00@58.00	54.50@55.00	....@....
May	52.00@52.50	57.50@58.50	50.00@51.00	53.50@54.50	45.75@46.25	....@....
June	45.00@46.00	54.00@54.50	42.00@44.00	50.00@51.00	40.00@40.50	....@....
July	40.50@41.00	45.00@45.50	....@38.50	41.50@42.00	37.00@37.50	....@....
August	45.00@45.50	47.00@47.50	....@41.50	42.50@43.00	39.00@39.50	....@....
September	42.50@44.00	44.00@45.00	39.50@40.00	41.00@41.50	38.25@38.75	....@....
October	42.00@42.50	45.00@45.50	39.50@40.00	41.00@41.50	38.75@39.25	....@....
November	45.00@45.50	47.00@48.00	43.50@44.00	43.50@44.00	40.50@41.00	....@....
December	46.00@46.50	....@49.00	43.00@44.00	44.00@44.50	40.00@40.50	....@....

1953—	Chicago Spring Bran	Chicago Spring Std. midds.	Minneapolis Spring Bran	Minneapolis Spring Std. midds.	Kansas City Hard Winter Bran	Kansas City Hard Winter Flour midds.
January	$55.50@57.50	$55.50@57.50	$....@53.50	$53.00@53.50	$52.25@53.00	$....@....
February	....@57.50	....@56.50	52.50@53.50	52.50@53.50	51.75@52.25	....@....
March	....@58.50	....@57.50	....@53.50	....@52.50	54.00@54.50	....@....
April	57.00@57.50	57.00@57.50	51.50@52.50	51.50@52.50	....@53.50	....@....
May	57.00@57.50	....@59.00	53.00@54.00	....@55.00	50.00@50.75	....@....
June	54.50@55.00	55.50@56.50	50.00@51.00	51.00@52.00	48.50@49.50	....@....
July	45.50@46.50	51.00@51.50	....@42.50	....@48.00	41.00@41.50	....@....
August	48.50@51.50	52.50@53.50	....@46.00	....@49.00	42.25@43.00	....@....
September	44.50@45.50	45.50@46.50	40.50@41.00	41.00@41.50	38.50@39.25	....@....
October	44.50@45.00	46.50@47.00	....@41.50	....@42.50	38.25@38.75	....@....
November	43.50@44.00	43.00@43.50	40.00@41.00	39.50@41.00	38.50@39.25	....@....
December	48.50@49.50	50.00@50.50	45.00@45.50	....@46.00	42.50@43.25	....@....

1952—	Chicago Spring Bran	Chicago Spring Std. midds.	Minneapolis Spring Bran	Minneapolis Spring Std. midds.	Kansas City Hard winter Bran	Kansas City Hard winter Flour midds.
January	**$66.00@71.50**	**$66.00@72.50**	**$67.50@68.50**	**$62.00@69.00**	**$60.25@66.00**	**$61.75@67.00**
February	**66.00@68.00**	**65.50@69.00**	**64.00@65.00**	**64.50@65.00**	**59.50@61.50**	**62.50@64.25**
March	**65.40@71.00**	**65.50@71.00**	**63.00@66.00**	**63.50@66.00**	**59.00@65.25**	**61.00@68.75**
April	**68.00@70.50**	**69.00@70.50**	**65.00@66.00**	**65.50@66.50**	**61.25@65.50**	**63.25@69.25**
May	**62.00@65.50**	**65.50@68.50**	**59.00@60.50**	**64.50@65.00**	**55.50@59.50**	**61.00@67.75**
June	**56.00@60.50**	**62.00@67.50**	**56.50@57.50**	**....@63.50**	**49.50@56.75**	**57.00@66.75**
July	**52.50@58.00**	**54.00@62.75**	**....@55.00**	**....@58.00**	**47.50@52.75**	**50.50@65.75**
August	**57.50@63.00**	**61.00@68.00**	**....@59.50**	**60.50@64.50**	**53.00@58.75**	**60.50@63.75**
September	**57.00@61.70**	**59.00@64.00**	**55.00@58.00**	**56.00@60.50**	**52.75@56.25**	**59.50@65.25**
October	**58.00@60.50**	**59.00@61.00**	**54.00@56.00**	**54.50@57.00**	**54.00@56.75**	**62.25@66.75**
November	**57.00@60.00**	**59.00@61.00**	**....@55.50**	**....@56.50**	**53.75@55.75**	**57.50@62.50**
December	**55.00@60.00**	**55.00@60.50**	**52.00@55.50**	**52.00@56.50**	**52.00@56.00**	**53.00@58.25**

1954—	St. Louis Soft winter Bran	St. Louis Soft winter Flour midds.	Buffalo Spring Bran	Buffalo Spring Std. midds.
January	$49.00@49.50	$....@....	$....@52.25	$....@52.50
February	50.00@50.50	....@....	54.00@54.75	53.75@54.00
March	50.75@51.25	....@....	55.00@56.00	56.00@56.50
April	58.50@59.00	....@....	62.00@63.75	63.00@64.50
May	51.00@51.50	....@....	55.00@55.75	56.50@56.75
June	45.50@46.00	....@....	46.50@47.25	50.50@51.50
July	40.50@41.00	....@....	44.00@44.75	46.50@47.00
August	44.00@44.50	....@....	47.50@48.50	50.00@50.50
September	43.00@43.50	....@....	44.00@44.75	47.00@47.25
October	43.25@43.75	....@....	43.50@44.25	47.50@48.50
November	44.50@45.00	....@....	46.50@47.00	48.00@48.25
December	45.00@45.50	....@....	49.00@50.00	51.50@52.50

1953—	St. Louis Soft winter Bran	St. Louis Soft winter Flour midds.	Buffalo Spring Bran	Buffalo Spring Std. midds.
January	$56.50@56.75	$....@....	$....@....	$....@....
February	56.75@57.00	....@....	62.50@63.50	61.50@62.50
March	59.50@60.00	....@....	61.50@62.50	59.00@60.00
April	....@56.50	....@....	57.00@58.00	57.00@58.00
May	56.25@56.75	....@....	59.00@60.00	59.50@60.50
June	52.25@52.50	....@....	50.50@51.50	50.50@51.50
July	....@45.65	....@....	48.50@49.50	50.50@51.50
August	47.00@47.50	....@....	51.50@52.50	52.50@53.50
September	43.50@43.75	....@....	47.00@48.00	48.00@49.00
October	43.00@43.50	....@....	49.00@50.00	49.00@50.00
November	43.00@43.50	....@....	....@....	....@....
December	45.25@45.75	....@....	50.00@51.00	51.50@52.50

1952—	St. Louis Soft winter Bran	St. Louis Soft winter Flour midds.	Buffalo Spring Bran	Buffalo Spring Std. midds.
January	**$64.75@70.50**	**$66.25@71.00**	**$67.50@75.00**	**$68.50@74.50**
February	**64.50@67.25**	**66.50@69.00**	**69.50@73.50**	**69.50@73.00**
March	**63.25@69.25**	**65.00@71.50**	**69.00@73.00**	**69.00@71.50**
April	**67.50@69.00**	**68.00@73.50**	**69.50@73.00**	**69.50@74.50**
May	**61.25@63.75**	**68.25@73.50**	**61.00@69.00**	**62.00@69.50**
June	**56.50@60.00**	**64.50@70.00**	**56.50@61.50**	**61.00@66.00**
July	**53.00@56.00**	**57.50@67.00**	**54.50@59.00**	**56.00@59.50**
August	**55.00@63.25**	**65.00@68.75**	**58.00@65.00**	**60.00@66.00**
September	**58.75@61.25**	**63.75@69.25**	**57.50@63.00**	**59.50@64.00**
October	**59.00@61.00**	**66.25@70.25**	**58.00@62.00**	**58.50@62.00**
November	**57.75@58.75**	**61.00@67.25**	**56.00@59.50**	**57.50@59.50**
December	**57.00@59.75**	**57.25@62.75**	**58.50@60.50**	**58.50@60.25**

hominy feeds, rice meals, corn and oat chops, corn feed meal, corn bran, corn and cob meal, wheat bran, wheat middlings, wheat feed, rye feed, rye middlings, buckwheat middlings and buckwheat feed, ground beef or fish scraps, meat meals, meat and bone meals mixed, dried blood, milk by-product, mixed feeds, compounded feeds, condimental stock and poultry feeds, proprietary or trademark stock and poultry feeds, and all other materials of a similar nature. Those not requiring registration are materials defined as roughages, whole seeds, pure whole grains ground together, unmixed meals made directly from the entire grains and broom corn, malt sprouts when sold as such by the maltster at retail, ground or cracked bone not mixed with any other trademark; name and principal address of substance, poultry feeds consisting of whole or whole and cracked grains mixed together, with or without grit, oyster shell or charcoal, when all the ingredients may be identified with the naked eye. Materials prohibited in mixed feeds are: peanut shells, peanut hulls, rice hulls, rice chaff, rice straw, humus, peat, sphagnum moss, coffee hulls, chaff, sawdust, sand, ground corn cobs, except in corn and cob meal unmixed with other materials, ground coconut shells, any substance injurious to health of animals or having no feeding value, poultry feeds containing in excess of 5% in the aggregate of gravel, grit, oyster shells and charcoal or more than 5% in the aggregate of any two or more of them, feedingstuffs containing cockle seed, mustard seed, or other noxious or poisonous weed seed, the viability of which has not been destroyed. (Authority granted to permit a uniform and reasonable tolerance in the amount of such seeds). Tags are not necessary on light-colored packages upon which required statement is plainly printed. If tags are used type must be not smaller than 8-point caps. Each package must be labeled showing net weight of contents except in case of malt sprouts sold in packages containing uneven weights; name, brand or of wheat, rye, barley, oats, corn, buckwheat manufacturer or person responsible for placing commodity on market; composition expressed in following terms: (a) minimum percentage of crude protein, (b) minimum percentage of crude fat, (c) maximum per centage of crude fiber, provided that the percentage of crude fiber may be omitted if it does not exceed 5%, (d) if a compounded feed, name of each ingredient contained therein, but if any ingredient classified under concentrated commercial feedingstuffs be present in a smaller amount than 5% of the whole, the minimum percentage or weight of such ingredient must be given as part of the statement as herein provided, (e) if artificially colored, name of material used for such purpose, (f) in the case of meat products containing more than 22% of tri-calcium phosphate, word "bone" must appear as a part of the brand name, or the presence of bone must be otherwise plainly indicated, (g) in case of molasses, minimum percentage of sugar, (h) in the case of compounded feeds containing roughages, percentage of total roughages when the total fiber content exceeds 10% with an allowance of 2% of fiber content for variation, (i) in case of mineral or inorganic compounds, mixed or unmixed, such as calcium phosphate, calcium carbonate or any other materials of similar inorganic character, the minimum percentage of each ingredient which is present in amounts greater than 5% of the whole. Metal fasteners with sharp points must not be used to attach tags. Administrative officer: Commissioner of Agriculture and Markets, Albany.

NORTH CAROLINA

All manufactured or mixed feeds including single ingredient feeds if ground or processed, are required to be registered before being offered for sale and annually thereafter, on or before Jan. 1. Alternate methods of payment, either tax tags or stamps are permitted. Fee is $1 per brand sold in packages greater than 5 lb.; $25 per brand if sold in packages of 5 lb. or less. The tonnage report must be made monthly and inspection fee due and payable monthly on the 10th of each month. Inspection fee, 25¢ ton and an Agricultural Foundation assessment of 5¢ ton on each brand sold in packages of more than 5 lb. Either tax tags or stamps will be supplied by department of agriculture. On such brands as are sold in packages of 5 lb. or less, there is no inspection tax. Each package must be labeled, either printed on bag or tag attached thereto, to show net weight of contents, name, brand or trademark; name and address of manufacturer, jobber or importer; names of ingredients; maximum percentage of crude fiber; minimum percentage of crude protein; crude fat. Standard weight packages: 5 lb. or less, 10, 25, 50, 75, 80, 100, 125, 150, 175 and 200 lb. Metal fasteners prohibited. Administrative officer: Commissioner of Agriculture, Raleigh.

NORTH DAKOTA

Registration is permanent and is required for all feedingstuffs used for feeding livestock and poultry except whole seeds and grains, unmixed meals made directly from and consisting of entire grains of corn, wheat, rye, barley, oats, buckwheat and broom corn, and whole hays, straws, ensilage and corn stover when unmixed with other materials. No registration fee; on feeds sold in cans or small packages of less than 10 lb., registration fee of $15 is optional in lieu of paying 20¢ per ton inspection fee which is payable Jan. 15 and July 15 on tonnage affidavit. Semi-annual tonnage affidavit is basis of inspection tax. Each package must bear tag or label showing net weight of contents; name, brand or trademark; name and principal address of

manufacturer or importer; minimum percentage of crude fat and crude proteins; and maximum of crude fiber; names of ingredients; in case of mineral feeds and commercial feeds containing more than a total of 5% of one or more mineral ingredients used as mineral supplements, minimum percentum of phosphorus, calcium and iodine, if no nutritive properties other than those of a mineral nature be claimed may omit fat, protein and fiber; in case of vitamin supplements or carriers potency in terms of vitamin units per weight. Deposit of samples is not necessary unless requested. Administrative officer: State Food Commissioner and Chemist, Bismarck.

OHIO

Registration is required annually or before offered for sale; fee $1 per brand. Inspection fee, 10¢ per ton payable semi-annually on sworn statement of tonnage. All feeds used for livestock, dog, fox, fish and poultry; linseed oil meal, linseed oil cake, cottonseed oil meal, cottonseed oil cake, pea meal, soybean oil meal, coconut meal, rice meal, rice bran, rice polish, peanut oil meal, bean meal, gluten meal, gluten feeds, dried brewers' grains, dried distillers' grains, dried beet refuse, malt sprouts, yeast feeds, hominy feeds, cerealine feeds, oat feeds, mixed feeds, alfalfa meals, molasses feeds, sugar feeds, buckwheat bran, buckwheat hulls, buckwheat middlings, corn and corn cob meal, crushed ear corn, corn bran, corn siftings, wheat bran with or without screenings, wheat middlings, corn and corn cob meal, ground or unground mixed feeds made from seeds or grains or grain offal, clover meals, dried blood, blood meal, tankage, meat scraps, beef scraps, meat and bone meal, meat cracklings, raw or steamed bone meal, fish scraps, fish meal, dried buttermilk, condensed buttermilk, dried skim milk, condensed skim milk or other animal, marine or vegetable by-products. No registration is required for hay, straw, whole seeds, whole grains or unmixed meals made from corn, oats, wheat, rye, barley, buckwheat or other whole standard grains. Label, either in form of printing on package or tag attached thereto, must show net weight; name, brand or trademark; name and principal address of manufacturer or person responsible for placing the commodity on the market; minimum percentage of crude protein, minimum percentage of crude fat, maximum percentage of crude fiber, specific name of each ingredient. Special statement is necessary for condimental, mineral and vitamin carrying feeds containing inorganic ingredients. Administrative officer: Chief, Division of Plant Industry, Department of Agriculture, Columbus.

OKLAHOMA

Registration is required for each brand before offering for sale and is permanent unless cancelled; no fee. Inspection fee 10¢ per ton, payable quarterly on sworn statement of tonnage. Materials which require registration are all commercial mixed feeds including ingredient feeds, concentrates, supplements, mineral feeds, and all other materials used for feeding animals and birds. Registration is not required of whole hay and straw, unmixed whole seed or grains, cottonseed hulls, peanut hulls, stover, silage or salt (NaCl) when unmixed with materials. Each bag or container of commercial feeds must have "plainly printed" statement on bag or on tag attached, to show net weight of contents; brand or trade name of feed, name and address of manufacturer or importer, minimum percentage of crude protein and crude fat, maximum percentage of crude fiber; names of ingredients. All mineral feeds mixed or unmixed, except salt, must have a plainly printed statement on the tag, label, or bag to show the minimum percentage of calcium (Ca), minimum percentage of phosphorus (P), minimum percentage of iodine (I), and maximum percentage of salt (NaCl). Any commercial feed to which more than 5% minerals have been added must have a plainly printed statement on the tag, label or bag to show all the requirements mentioned above. All preparations which are sold or represented for the cure, mitigation or prevention of disease are classified as drugs, medicines, or specifics and are not subject to registration under the Oklahoma Feed Law. However, when same is used in commercial feeds that may be potentially dangerous to the health of stock or poultry, full information to protect the purchaser must be given on the label to show adequate directions for use and also adequate warnings. All labels or tags must be "clearly printed and distinct in type" so as to be easily read. The use of labels and tags printed with rubber stamps is prohibited. Deposit of samples is not required unless requested. Administrative officer: State Board of Agriculture, Oklahoma City.

OREGON

Registration is required annually by Jan. 1 or before goods are offered for sale; fee of $10 for each brand if registered on or after July 1, fee $5 for balance of year. All materials intended for use in feeding or mixing for livestock and/or fowls, or represented by any seller or distributor as suitable for such purpose, except whole seeds, or grains; unmixed meals made directly from and consisting of the entire grains of corn, wheat, rye, barley, oats, buckwheat, flaxseed and grain sorghums; unground hays and straws; unground and unmixed screenings, cottonseed hulls, corn stover, oat hulls; feed molasses when unmixed with other materials; all other materials containing 60% or more of water. Label, either in form of printing on package or tag attached, must state net weight; name, brand or trademark; name and address of manufacturer or dealer; minimum percentage of crude protein and fat; maximum percentage of crude fiber and ash (maximum of 12% on fiber except on single feedingstuffs containing more than 12% natural fiber); specific name of each ingredient; in the case of poultry feed, maximum percentage of grit and shell and other mineral matter. Deposit of samples is not necessary unless requested. Administrative officer: Division of Foods and Dairies, State Department of Agriculture, Salem.

PENNSYLVANIA

Registration fee is $5 for each new brand. Registration of old brands is based on number of tons sold during last preceding calendar year, as follows: 150 tons and less, $5; more than 150 tons and not more than 300 tons, $10; more than 300 tons and not more than 500 tons, $15; more than 500 tons, $25. If no sworn statement of tonnage sales is made by manufacturer, then brands can be registered at $25 each; no inspection fee. Pure wheat, rye and buckwheat by-products; pure corn meal, made by grinding and bolting corn, and pure corn and oats chop can be registered annually at $5 per brand, no tonnage sales being required. Materials requiring registration are: cottonseed oil meals, cottonseed feeds, linseed meals, linseed oil meals, coconut oil meals, peanut oil meals, corn oil meals, corn gluten feeds, corn gluten meals, corn bran, maize feeds, starch feeds, barley middlings, barley feeds, pea meals, bean meals, sugar feeds, dried distillers' grains, dried brewers' grains, malt sprouts, dried malt grains, dried vinegar grains, wheat bran, wheat middlings, wheat mixed feeds, rye bran, rye middlings, rye mixed feeds, buckwheat brans, buckwheat middlings, buckwheat feeds, hominy feeds, cerealine feeds, maizeline feeds, rice meals, dried beet pulp, dried molasses beet pulp, feed molasses, molasses grains, molasses feeds, clover meal, alfalfa meal and feeds, semi-solid or dried buttermilk, also semi-solid or dried skimmed milk, ground beef scraps, ground fish scraps, oil meals, or residues from extracted seeds and grains, mixtures of whole grains and all other mixtures bearing distinctive brand or trade names, and all mixtures of similar nature used for feeding domestic animals including poultry; condimental stock and poultry foods and patented, proprietary or trademarked stock and poultry foods possessing nutritive value combined with medicinal properties, and all mixed feeds (other than pure grains, which are not sold as mixtures bearing distinctive names, but which are sold as pure grains). Materials not requiring registration are hays, straws and corn stover, ensilage, whole grains, unmixed meals made directly from entire grains of wheat, rye, barley, oats, Indian corn, ear corn, kafir corn, broom corn, sugar cane, sorghum, rice, buckwheat and flaxseed, not mixed with other substances, but sold separately as distinct articles of commerce, nor pure grains mixed together, nor being mixed with any other substance, nor having distinctive brand or trade names but sold as mixtures of pure whole grains. The use or addition to any feedingstuffs of oat hulls, oat feed, oatmeal by-product, clipped oat by-product, flax plant refuse, elevator chaff, cottonseed hulls, ground corn stalks, cocoa shells, cocoanut shells, is permitted and such feeds will not be considered as adulterated with these materials provided the maximum fiber shall not be found, upon analysis, to exceed 11% plus 10% tolerance, making a total of 12.1%. Label, either in form of printing on package or tag attached, must show net weight of contents; name, brand or trademark; name and address of manufacturer or importer; minimum percentage for crude protein and crude fat; and maximum percentage of crude fiber; minimum percentage of total sugar in case of feed molasses; minimum percentage of total solids in case of semi-solid buttermilk. Metal fasteners of all kinds prohibited. Administrative officer: Director, Bureau of Foods and Chemistry, Department of Agriculture, Harrisburg.

RHODE ISLAND

Registration is required annually for each brand; fee $10 per brand for each calendar year or portion thereof; no inspection fee. All feeds used for feeding animals and birds must be registered, except unmixed whole seeds or grains; unmixed meals made directly from and consisting of entire grains of corn, wheat, rye, barley, oats, buckwheat, flaxseed, kafir, milo and other seeds or grains; whole hays, straws, cottonseed hulls, corn stover and silage, when unmixed; feed mixed according to formula furnished by consumer for his own use and not sold as commercial brand. Label, either in form of printing on package or tag attached to package, must show: net weight, name, brand or trademark, name and address of manufacturer or person placing commodity on market, minimum percentage of crude protein and crude fat, maximum percentage of crude fiber, name of each ingredient, maximum percentage of salt if over 2%. Special label requirements for mineral feeds. Feeds sold for mixing purposes only exempt from fee. Deposit of samples is not required unless requested. Administrative officer: Deputy Administrator, Bureau of Markets, Department of Agriculture and Conservation, Providence.

SOUTH CAROLINA

Registration is required on Jan. 1 annually; no fee. Inspection fee 25¢ ton, payable either by stamps attached to each package or monthly on sworn statement of shipments. Feed for "mixing purposes only" is exempt if so labeled. All feeds, used for feeding livestock and poultry, must be registered, except whole hays, straws, cottonseed hulls, and corn stover when not mixed with other materials; whole seeds or grains of cereals when not mixed with other materials and when not in damaged condition as determined by inspection to be unfit for food purposes, mixed or unmixed. Label must show weight of package, name, brand or trademark; name and address of manufacturer, jobber or importer; minimum percentage of crude protein and crude fat; maximum percentage of crude fiber; names of ingredients. Information may appear either in the form of printing on package or tag attached to package, the latter being preferable. Printing must be in black ink (rubber stamp not recognized); tag if used must not be larger than 4½x4½ in. Tags or labels must not be attached with any metal fasteners. Standard weights: 25, 50, 75, 100, 125, 150, 175 and 200 lb. Samples of not less than 1 lb. are to be collected from not less than 10 packages if there are that many in the lot; not required to be collected in duplicate. Administrative officer: Department of Agriculture, Columbia.

SOUTH DAKOTA

Registration is required annually on or before Jan. 1 or before goods are offered for sale. Fee, $1 per brand; $15 for each brand of concentrated commercial feedingstuffs sold, offered for sale or distributed as and for food for dogs, cats and other pets in packages of 5 lb. or less; $20 for each brand of mineral feeds; $25 for each initial registration of brands of livestock remedies; such registration may be renewed annually by payment of a fee of $5 provided that the formula of such remedy has not been changed. Inspection fee is 15¢ per ton payable on semi-annual sworn statement showing number of net tons of feedingstuffs, except dog and cat food and except mineral feeds, sold or distributed during six preceding calendar months. Reports are due on or before 15th day of January and the 15th day of July each year. Materials requiring registration are mineral feeds; livestock remedies; all commercial feedingstuffs — "Concentrated Commercial Feedingstuffs" shall be construed to mean and include any product used or offered to be used for feeding livestock, poultry or other domestic animals and animals grown in captivity, except whole seed or grain, whole hay, straw, silage, and corn fodder, unmixed meals made from and composed of entire grains of wheat, rye, barley, oats, Indian corn, buckwheat, millet, broom corn, kafir, milo, or other seed or grain, and except mixed or unmixed meals of grains, with or without ground screenings added, which are sold and delivered in bulk to the consumer, and except those products hereinafter designated as mineral feeds. Label for commercial feeds must show net weight, name, brand or trademark; name and principal address of manufacturer or person responsible for placing commodity on market; minimum percentage of crude protein, and crude fat; maximum percentage of crude fiber; specific name of each ingredient and actual percentage by weight of limestone

Wholesale Feedstuffs Price Index

INDEX NUMBERS OF WHOLESALE FEEDSTUFFS PRICES
BASE PERIOD 1935-39=100

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Aver.
1954-55.....	216.9	221.6	222.2	223.0	222.8	...	...	...	...	...	...	...	...
1953-54.....	201.2	203.6	225.2	234.8	239.0	248.1	266.4	252.8	239.5	242.0	237.3	219.3	234.1
1952-53.....	262.4	257.2	257.2	251.7	242.0	238.3	227.8	229.2	215.7	215.4	211.3	205.5	234.1
1951-52.....	258.9	269.0	274.6	277.1	274.0	273.0	279.4	277.4	275.6	270.9	292.6	283.4	251.8
1950-51.....	207.8	221.1	229.0	233.6	241.3	240.2	243.9	240.7	237.4	240.4	236.6	246.6	234.8
1949-50.....	212.5	209.7	214.2	206.7	202.9	212.4	221.8	237.3	227.8	251.2	227.5	213.6	219.8
1948-49.....	208.8	230.4	230.0	225.5	210.8	214.2	226.4	221.4	215.5	229.3	239.2	219.4	222.6
1947-48.....	283.6	283.1	301.9	313.7	281.6	272.6	275.3	271.6	277.1	259.4	220.1	221.7	271.8
1946-47.....	229.7	254.0	221.6	208.6	197.4	236.7	224.5	223.0	238.8	257.1	263.9	288.1	237.0
1945-46.....	165.0	165.1	165.1	165.2	165.2	165.2	165.3	192.3	202.3	278.0	255.2	204.4	190.7
1944-45.....	164.8	164.6	164.4	164.5	164.8	164.7	164.3	164.2	164.6	164.8	164.9	164.9	164.6

Compiled by Market News Branch, Grain Division, Agricultural Marketing Service, U.S. Department of Agriculture.

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or other calcium carbonate-bearing material and of common salt contained in feed; provided that, if total amount of added mineral matter exceeds 5% by weight of whole feed, then label shall also show minimum percentage of calcium, phosphorus and iodine. Special regulations for labeling mineral feeds and livestock remedies. Information may appear in form of printing on package or tags attached to package; if printed on tags must not be smaller than 10-point for commercial feeds, mineral foods and livestock remedies. Deposit of samples is not necessary unless requested. Administrative officer: Secretary of Agriculture, Pierre.

TENNESSEE

Registration is required for all feeds used for livestock and domestic animals except whole hays, straws and corn stover where not mixed with other materials; unmixed whole seeds or grains of cereals when not mixed with other materials; no fee; registrations permanent. Inspection fee 20¢ per ton. In lieu of affixing or furnishing inspection stamps, application may be made to commissioner of agriculture for permit to pay fee on a monthly report basis; report must be under oath and is due and inspection fee payable on the 10th of each month. Label, either in the form of printing on package or tag attached to each package must state net weight; name and address of manufacturer; names of all ingredients; name, brand or trademark; minimum percentage of crude fat and crude protein; maximum percentage of crude fiber. Standard weights: 5, 8½, 10, 25, 50, 100 and 140 lb. Packages under 5 lb. are permitted if weight is "conspicuously" marked in at least 20-point type. Deposit of samples is not necessary unless requested. Administrative officer: Superintendent, Division of Feeds, Seeds and Fertilizer, Nashville.

TEXAS

Registration is required for each brand; no fee; registrations are permanent. Inspection fee, 10¢ per ton; payment may be made under permit in lieu of tax tags. Label information must appear on tax tag or tax label attached to package and must state net weight; brand name, name and address of manufacturer or importer; minimum percentages of crude protein, crude fat and nitrogen-free extract; maximum percentage of crude fiber; names of the ingredients (if a mixed feed); and percentage of each ingredient when rice hulls, peanut shells, corn cobs, oat hulls or other similar substances are present in a mixed feed. Deposit of samples is required, accompanied by affidavit, that it is an average sample of the material it represents. Standard weights: 5, 10, 25, 50, 75, 100, 125. Samples not exceeding 2 lb. to be collected in presence of party or parties in interest or their representative from not less than 5% of the whole lot inspected. Administrative officer: Director, Texas Agricultural Experiment Station, College Station.

UTAH

Annual registration by calendar years is required for all brands; registration fee $4; fee for amending any certificate of registration $1. Inspection fee, 10¢ per ton, applies only on feeds mixed to order. All feeds used for feeding birds and other domestic animals or domesticated wild animals are subject to registration except unmixed whole seeds or grains as defined by U.S. grain standards; unmixed meals made directly from and consisting wholly of any one of the following entire grains: corn, wheat, rye, barley, oats, buckwheat, flaxseed, kafir, milo or other seeds or grains, entire, unmixed hays, straws, cottonseed hulls, stover or silage, whether whole, ground or chopped, when unmixed with other materials. Each package shall have affixed thereto a tag in a conspicuous place on the outside containing a legible and plainly printed statement clearly and truly certifying net weight of contents; name, brand or trademark, name and address of manufacturer or distributor; minimum percentage of crude protein and crude fat; maximum percentage of ash, crude fiber, and maximum percentage of minerals; specific name of each ingredient. Deposit of samples is not necessary unless requested. Administrative officer: State Board of Agriculture, Salt Lake City.

VERMONT

Annual registration by calendar years or before offered for sale is required for each brand; registration fee: $20 for each brand for each calendar year or portion thereof for wholesalers; retailers $10 annually. Materials requiring registration are linseed oil meals, cottonseed oil meals, cottonseed feeds, pea meals, coconut meals, gluten meals, gluten feeds, maize feeds, starch feeds, sugar feeds, distillers' dried grains, brewers' dried grains, malt sprouts, hominy feeds, cerealine feeds, rice meals, oat feeds, corn and oat chops, corn and oat feeds, corn bran, ground beef, or fish scraps, meat and bone meals, mixed feeds, wheat, rye, barley and buckwheat offals, condimental stock and poultry foods, patented proprietary or trademarked stock and poultry foods, and other materials of a similar nature, not named in the following section. Each package must be labeled, either in form of printing on package or tag attached to package, showing net weight of contents; name, brand or trademark; name and address of manufacturer or importer; minimum percentages of crude protein and crude fat; maximum percentage of crude fiber; specific name of each ingredient. Use of wire or metal fasteners to attach tags is prohibited. Deposit of samples not necessary unless requested. Administrative officer: Director, Agricultural Experiment Station, Burlington.

VIRGINIA

Registration is required of all concentrated commercial feedingstuffs intended for feeding livestock and poultry, except hays, straws and corn stover, when unmixed with other materials; whole unmixed seeds or grains of cereals when not mixed with other materials nor the pure products of wheat known as middlings, shorts and bran made from wheat only nor the pure products of corn known as corn meal, hominy grits and corn bran. Every lot or package of commercial feedingstuffs sold must have "affixed thereto, or printed thereon" a statement, certifying the net weight of the package; name, brand or trademark, name and address of manufacturer, jobber or importer; name of each ingredient; guarantee that contents are pure and unadulterated; maximum percentage of crude fiber, minimum percentage of crude fat and crude protein allowing 1% of nitrogen to equal 6¼% of protein. In lieu of affixing or furnishing inspection fee tags or stamps any manufacturer, jobber, importer, agent or seller of any concentrated feedingstuff may make application to the Commissioner of Agriculture and Immigration for a permit to report the tonnage of feedingstuff sold, offered or exposed for sale or distributed and pay the inspection tax of 15¢ per ton applicable, on the basis of such report. The report of tonnage is due and payable quarterly on the first day of January, April, July and October. The use of the reporting system is optional. All concentrated feedingstuffs must be in standard weight packages of 25, 50, 75, 100, 125, 140, 150, 175 and 200 lb. Before selling or offering for sale a copy of the statement above must be filed for registration with the Dairy and Food Commissioner for each and every feedingstuff bearing a "distinguishing name or trademark" and, on request, must accompany this statement with a sealed glass jar or bottle containing at least 1 lb. of such feedingstuff to be sold. Concentrated commercial feeds must bear inspection stamps, inspection fee, 15¢ per ton; payment may be made by the reporting system. Administrative officer: Director, Dairy and Food Division, Department of Agriculture and Immigration, Richmond.

WASHINGTON

Registration annually, on or before January 1 or before offered for sale, is required for each brand per year; fee not more than $10 per year per brand. Retail dealers must pay license fee of $10 for each establishment or vehicle from which feeds are sold. Each package must be labeled, either in form of printing on package or tag attached thereto, showing net weight of contents; name and address of manufacturer or dealer; name or brand under which sold. Minimum percentage of crude protein and crude fat, maximum percentage of crude fibre, ash and moisture (crude fibre limitations 10%, 12% and 22%, except in open formulas) listing specific names of each ingredient. All feeds used as a feedingstuff for domestic animals which are claimed to have nutritive value must be registered except hay, wheat flours or other flours, single grains, whole seeds or unmixed meals made from whole grains of wheat, rye, barley, oats, corn or other cereal when no part has been removed. Deposit of samples is not required. Administrative officer: Director, Department of Agriculture, Olympia.

WEST VIRGINIA

Registration is required for all commercial feedingstuffs used for feeding animals and birds, except whole seeds or grains and unmixed meals made directly from entire grains of corn, wheat, rye, barley, oats, buckwheat, flaxseed, kafir and milo, whole hays, straws, corn stover when unmixed with other materials and all other unmixed materials containing a minimum of 80% of water. Registration fee for each brand, $1 (permanent unless cancelled or revoked). Inspection fee, 15¢ per ton on feeds in packages of 10 lb. or more; 5¢ per cwt. on feeds in packages of less than 10 lb. Each registrant is required to file with the commissioner of agriculture on or before the 20th day of January and July each year a sworn statement setting forth net weight by brand, names and kinds of commercial feedingstuffs sold in the state preceding six months and pay tonnage fee prescribed by law. Every lot, parcel, bag, or other container of commercial feedingstuff must have attached a tag to convey the following information, except this does not apply to paper containers on which the following information is legibly printed: net weight of contents of package (gross weight not accepted); name, brand or trademark; name and address of the manufacturer or person responsible for placing the commodity on market; minimum percentage of crude protein, minimum percentage of crude fat, maximum percentage of crude fiber; specific name of each ingredient used in its manufacture with a statement of the amount or percentage of each such ingredient as salt, charcoal, carbonate and phosphate of lime, grit and such inferior or objectional materials as the commissioner may hereafter prescribe; specific name of each and every ingredient used in manufacture of the commercial feedingstuff in the common English term for such ingredient; actual percentage, source and condition of grain screenings used. Deposit of samples is not necessary unless requested. Administrative officer: Commissioner of Agriculture, Charleston.

WISCONSIN

Registration is required of all materials used for feeding animals or birds except unmixed whole seeds or grains; unmixed meals made directly from entire grains of corn, wheat, rye, barley, oats, buckwheat, flaxseed, kafir, milo and other seeds or grains; whole hays, straws, cottonseed hulls, stover and silage, when unmixed with other materials. A registration fee of $1 is required for each brand plus an inspection fee of 5¢ per ton on all such feeds sold in the state during the preceding calendar year, provided the minimum inspection fee is not less than $10, or a $15 registration fee for a wholesaler's license authorizing sale or resale anywhere within the state or a $5 registration fee for a retailer's license authorizing sale at retail at one location in the state to ultimate user and not for resale. Feed for mixing purposes is exempt if so labeled. Each package must be labeled, either in form of printing on package or tag attached, showing net weight; brand or trade name; name and principal address of manufacturer or person responsible for placing commodity

on market; ingredients; minimum percentages of crude protein, crude fat and maximum percentage of crude fiber; in the case of mixed feeds containing more than a total of 5% of added mineral ingredients and in case of mineral feeds mixed or unmixed, minimum percentage of calcium (Ca.), phosphorus (P.), iodine (I.), maximum percentage of salt (NaCl.). If no nutritional properties other than of a mineral nature are claimed, percentages of crude protein, crude fat and crude fiber may be omitted. In case of feeds containing for their principal claim dietary factors in forms not expressible by the foregoing chemical components or are thereby inadequately described, a statement of guarantee must be specified by ruling of the department. Deposit of samples not necessary unless requested. Administrative officer: Director, State Department of Agriculture, Madison.

WYOMING

The label, either in the form of printing on package or tag attached, must show net weight of contents; name, brand or trademark; name and address of manufacturer or dealer; minimum percentage of crude protein and crude fat; maximum percentage of crude fiber; percentage of added approved synthetic nitrogen sources reported as proteins, for ruminant feeding only; specific name of each ingredient. All feedingstuffs used for feeding livestock and poultry must be registered, except whole seeds or grains; unmixed meals made directly from entire grains of corn, wheat, rye, barley, oats, buckwheat, flaxseed, kafir and milo; whole hays, straws, cottonseed hulls and corn stover when unmixed with other materials and all other materials containing 60% or more of water. When requested, a sample of not less than 1 lb. in sealed glass jar is to be forwarded to Division of Markets, Wyoming Department of Agriculture, Cheyenne. Administrative officer: Commissioner of Agriculture, Cheyenne.

Boerner Sampler and Divider

This device was invented by E. G. Boerner for dividing lots of grain and other loose material into smaller portions which are truly representative of the whole. The principle of dividing is that of funneling the sample down the outside surface of a cone partitioned at the base to divide the flow into numerous equal streams which are then alternately combined into two streams to form two portions of approximately equal amount. Also, the design may be modified to give any fractional division desired.

Prepared Cereal Foods

About the turn of the 20th Century prepared cereal breakfast foods began to appear in retail markets in greater abundance and variety. Rolled oats had, for many years, been the standard breakfast cereal dish, and in the 1890's the first quick-cooking and ready-to-eat cereals were introduced.

"Elijah's Manna," a quick-cooking cereal, is claimed by some to have been the first of many that were introduced at that period. Ingenious Americans invented new machinery and new processing techniques to broaden the uses of other cereal grains in addition to oats. Today all of the cereal grains are used and it is estimated that the annual production of prepared, ready-to-eat or quick-cooking cereals is in excess of 1,200 million pounds.

The prepared cereals industry has grown rapidly during the past decade and maintains its own trade association, Cereal Institute, Inc., 135 S. La Salle St., Chicago 3, Ill. The institute has a staff of home economists who engage in promotion work among schools and colleges.

Canadian Millfeed Exports

Note: By crop years ending July 31, in tons. Source: Dominion Bureau of Statistics.

Crop years	Production	Exports
1953-54*	677,702	186,213
1952-53	810,830	264,949
1951-52	829,301	258,342
1950-51	852,053	235,301
1949-50	691,812	55,393
1948-49	695,346	53,849
1947-48	868,866	30,502
1946-47	970,652	40,414
1945-46	881,844	32,170
1944-45	814,272	41,685

*Preliminary.

Feed Grain Price Index

INDEX NUMBERS OF FEED GRAIN PRICES (CORN, OATS, BARLEY AND GRAIN SORGHUMS), OCTOBER, 1935, TO SEPTEMBER, 1940=100

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Aver.
1954-55	221.4	216.2	216.5	213.8	211.0	...	...	...	...	...	...	...	...
1953-54	206.4	208.1	219.0	218.2	215.9	218.6	220.6	223.8	225.5	223.1	225.4	224.9	219.1
1952-53	228.2	233.0	233.0	227.4	218.9	221.6	221.4	225.3	218.7	221.0	224.4	223.9	224.7
1951-52	247.6	261.4	272.7	269.1	254.5	256.5	254.7	256.2	254.6	252.1	253.4	249.4	256.8
1950-51	207.5	219.9	232.0	240.3	250.2	245.8	247.4	246.6	236.6	240.6	241.8	243.1	237.6
1949-50	173.8	173.5	184.0	184.5	185.2	190.6	201.5	211.3	211.3	218.6	211.6	210.9	196.4
1948-49	207.8	201.3	205.6	203.1	183.3	193.3	197.3	187.5	189.2	192.7	181.3	181.6	193.7
1947-48	334.1	344.6	367.0	378.2	319.1	326.8	325.4	322.3	320.7	284.6	262.2	243.1	319.0
1946-47	254.8	210.4	194.8	192.0	200.4	244.0	248.3	251.1	285.4	294.4	322.3	343.0	253.5
1945-46	170.2	172.7	173.6	173.9	174.1	179.0	178.7	202.1	209.9	293.3	262.8	257.2	204.0
1944-45	164.9	157.1	164.6	168.2	159.0	170.0	166.6	165.2	169.4	170.3	167.8	168.3	166.3

Compiled by Market News Branch, Grain Division, Agricultural Marketing Service, U.S. Department of Agriculture.

Canadian Feed Laws

Annual registration is required of all feedingstuffs intended for feeding livestock and poultry except whole hay, straw, corn stover and silage unless mixed with other material and the following for which labeling but not registration is required, whole grain and cultivated seed, hulled oats and barley, cracked corn, wheat bran, shorts, middlings, feed flour and germ, chop feeds the product of wheat, oats, barley, corn, flax, rye, spelt, emmer, buckwheat, field peas, field beans and soybeans singly or mixed, chop feeds the product of No. 1 feed screenings, No. 2 feed screenings or mixed feed oats singly, limestone, marl, chalk, oyster shell, clam shell and other calcium and/or grit materials, vitamin A and D supplements. Registration expires Sept. 30; fee is $2.00 for each brand. Label for registered feeds is printed on one side of container or tag and requires name and address of registrant, name and brand of feed, registration number, net weight (restricted to prescribed weights), name of each ingredient, guaranteed analysis. Guaranteed analysis is required in percentages for general feeds: minimum crude protein and crude fat, maximum crude fiber; supplements: minimum crude protein and crude fat, maximum crude fat when over 7%, maximum crude fiber, actual percentage calcium, phosphorus, iodine, iron, salt; minerals: actual percentage calcium, phosphorus, iodine, iron, salt; blood meal: minimum crude protein, bone products except bone char: minimum crude protein, maximum crude fat when over 5%, actual percentage phosphorus and calcium; dried milk and buttermilk: minimum crude protein; dried whey: minimum crude protein and lactose; fish liver meal: minimum crude protein, minimum and maximum crude fat; other fish products except oil: minimum crude protein, maximum crude fiber when over 2%, maximum salt and crude fat; meat and meat-and-bone products: minimum crude protein, maximum crude fat, maximum crude fiber when over 2%; semi-solid milk or buttermilk: minimum crude protein, maximum moisture. Sample of feed is not required with application for registration unless requested. Excessive injurious material and viable weed seeds are prohibited. Administrative officer: Associate Chief (Feeds) Plant Products Division, Canada Department of Agriculture, Ottawa.

Canadian Millfeed Exports

Note: Bran, shorts and midds., in cwt. (100 lb.). Source: Dominion Bureau of Statistics.

	1953-54	1952-53	1951-52
Br. Empire—			
U.K.	413,134	.....	.....
Bermuda	6,304	8,795	7,734
British Guiana	1,513	1,336	828
Br. W. Indies	38,691	33,347	47,333
Ceylon	.....	.....	1,000
Hong Kong	4,000	1,000	1,600
Foreign Countries—			
Cuba	.....	.....	.....
Ecuador	.....	.....	800
Iceland	2,100	36,187	11,408
Morocco	1,210	.....	.....
Netherlands Antilles	20	.....	.....
St. Pierre and Miquelon	1,212	810	1,143
U.S.	3,238,692	5,135,737	5,090,747
Hawaii	11,112	65,610	300
Venezuela	6,285	16,175	3,956
Totals	3,724,273	5,298,997	5,166,849

Western Canada Licensed Grain Storage

Note: Port Arthur, Fort William, Keewatin, Kenora and points in Manitoba, Alberta, Saskatchewan and British Columbia, by crop years in bushels. Source: Board of Grain Commissioners for Canada (as at Dec. 1 each crop year).

1954-55	490,123,010	1937-38	338,941,820
1953-54	476,575,408	1936-37	340,730,130
1952-53	454,360,060	1935-36	341,976,680
1951-52	444,332,970	1934-35	343,253,660
1950-51	423,716,670	1933-34	342,933,460
1949-50	407,378,970	1932-33	341,524,260
1948-49	403,723,470	1931-32	338,623,260
1947-48	398,911,420	1930-31	326,082,210
1946-47	411,727,920	1929-30	305,744,790
1945-46	475,739,670	1928-29	305,744,790
1944-45	506,832,090	1927-28	243,508,200
1943-44	511,339,787	1926-27	238,636,560
1942-43	512,052,896	1925-26	229,790,620
1941-42	509,353,519	1924-25	227,914,620
1940-41	424,493,047	1923-24	216,994,620
1939-40	341,625,770	1922-23	203,927,420
1938-39	340,160,420	1921-22	197,453,420

NELLIS FEED CO.

Brokers of Feed Ingredients

255 Board of Trade
Chicago 4, Ill.
Wabash 2-7322—Twx 623

U.S. Farm Animal Population by States

Note: Numbers of livestock and poultry on farms and ranches (livestock and poultry not on farms are excluded), Jan. 1, 1955 (000's omitted). Source: USDA.

State	CATTLE AND CALVES (thousands)																		HOGS AND PIGS (thousands)							
			KEPT FOR MILK						OTHER																	
	All cattle and calves		Cows and heifers 2 yrs. old and over		Heifers 1-2 years old		Heifer calves		Cows 2 years old & over		Heifers 1-2 years old		Calves		Steers 1 yr. old & over		Bulls 1 yr. old & over		Total		Under six months		Six months and over — Sows and gilts		Six months and over — Others	
	1954	1955	1954	1955	1954	1955	1954	1955	1954	1955	1954	1955	1945	1955	1954	1955	1954	1955	1954	1955	1954	1955	1954	1955	1954	1955
Maine	245	238	126	123	45	45	46	41	8	9	2	3	8	8	5	5	5	4	24	26	13	16	4	4	7	6
N. H.	122	118	72	71	20	20	21	19	2	2	1	1	2	2	1	1	3	2	10	10	6	7	2	2	2	1
Vermont	484	479	317	320	73	71	72	66	3	3	1	1	5	5	3	3	10	10	12	11	7	6	2	2	3	3
Mass.	196	190	160	127	26	26	28	26	2	2	2	2	3	3	2	1	3	3	104	114	53	63	12	12	39	39
R. I.	29	29	21	21	3	3	4	4	...	...	...	...	...	...	...	...	1	1	5	6	2	3	1	1	2	2
Conn.	190	188	122	123	29	27	28	27	2	2	1	1	3	3	1	1	4	4	21	23	13	14	3	3	5	6
N. Y.	2,356	2,356	1,497	1,527	363	350	356	340	30	31	7	7	46	48	14	13	43	40	160	160	94	107	27	28	39	25
N. J.	230	228	158	158	28	27	27	26	3	3	2	3	4	4	3	3	5	4	108	116	36	31	14	15	58	70
Pa.	1,954	1,954	1,029	1,039	287	293	301	289	75	77	36	40	42	45	147	138	37	33	554	604	365	405	80	82	109	117
N. Atl.	5,806	5,780	3,472	3,509	874	862	883	838	125	129	52	58	113	118	176	165	111	101	998	1,070	589	652	145	149	264	269
Ohio	2,488	2,438	1,050	1,018	268	263	283	270	170	195	97	102	366	356	212	194	42	40	2,511	2,812	1,916	2,171	440	450	155	191
Ind.	2,075	2,054	664	624	139	134	150	150	309	318	114	120	442	457	228	224	29	27	4,005	4,566	2,964	3,380	635	685	406	501
Ill.	3,946	3,946	940	884	268	264	310	312	612	612	213	221	846	884	702	718	55	51	5,793	6,778	3,450	4,000	1,080	1,130	1,263	1,648
Mich.	2,023	2,003	973	963	281	285	296	288	75	78	61	60	159	153	146	146	32	30	737	818	540	600	123	128	74	90
Wis.	4,275	4,318	2,604	2,656	621	610	625	614	43	47	51	52	133	137	125	131	73	71	1,652	1,850	970	1,100	380	395	302	355
E. N. C.	14,807	14,759	6,231	6,145	1,577	1,556	1,664	1,634	1,209	1,250	536	555	1,946	1,987	1,413	1,413	231	219	14,698	16,824	9,840	11,251	2,658	2,788	2,200	2,785
Minn.	3,900	3,939	1,527	1,496	433	449	461	484	293	315	152	169	572	577	392	386	70	63	3,057	3,668	1,520	1,823	682	704	855	1,141
Iowa	5,868	6,279	1,145	1,111	270	270	287	295	933	980	352	421	1,643	1,809	1,138	1,293	100	100	10,662	12,048	5,492	6,072	2,132	2,253	3,038	3,723
Mo.	3,950	3,910	1,044	1,034	193	201	230	216	995	977	215	217	819	811	375	375	79	79	3,343	3,610	2,274	2,419	540	540	529	651
N. Dak.	1,881	1,937	430	426	90	95	123	127	499	554	150	162	450	443	98	90	41	40	326	491	49	73	111	118	166	210
S. Dak.	3,205	3,301	354	340	93	97	142	143	1,182	1,260	247	254	876	905	240	230	71	72	1,229	1,524	270	352	355	385	604	787
Neb.	4,752	5,016	455	442	114	106	133	150	1,508	1,558	406	422	1,370	1,533	679	716	87	89	2,123	2,453	830	1,050	500	550	803	853
Kansas	4,298	4,341	568	545	126	121	141	141	1,369	1,392	358	335	1,273	1,388	386	354	77	65	774	898	495	575	140	162	139	161
W. N. C.	27,854	28,723	5,523	5,394	1,319	1,339	1,517	1,556	6,779	7,036	1,880	1,980	7,003	7,466	3,308	3,444	535	508	21,524	24,602	10,930	12,364	4,460	4,712	6,134	7,526
N. Cent.	42,661	43,482	11,754	11,539	2,896	2,895	3,181	3,190	7,988	8,286	2,416	2,535	8,949	9,453	4,721	4,857	756	727	36,222	41,426	20,770	23,615	7,118	7,500	8,334	10,311
Del.	80	78	43	43	11	10	11	11	5	6	3	3	3	3	2	3	2	2	37	38	24	25	5	5	8	8
Md.	540	540	275	278	65	63	64	66	36	37	17	16	21	23	47	44	15	13	209	215	140	150	31	33	38	32
Va.	1,410	1,382	494	474	107	99	113	109	323	329	84	76	158	161	104	108	27	26	609	658	417	460	87	90	105	108
W. Va.	617	611	231	229	46	45	49	44	127	131	42	40	65	67	47	46	10	9	149	165	93	102	19	21	37	42
N. C.	952	933	399	391	93	94	101	90	143	159	71	68	87	82	37	31	21	18	1,059	1,154	595	715	173	172	291	267
S. C.	497	492	176	178	38	38	43	47	100	103	40	43	61	49	23	19	16	15	510	525	299	335	71	68	140	122
Georgia	1,439	1,439	395	399	107	108	120	119	355	376	113	112	247	224	66	65	36	36	1,597	1,661	966	1,086	249	249	382	326
Florida	1,679	1,679	164	167	62	59	67	77	818	777	171	162	188	207	167	184	42	46	504	519	282	291	80	90	142	138
S. Atl.	7,214	7,154	2,177	2,158	529	516	568	563	1,907	1,918	541	520	830	815	493	499	169	165	4,674	4,935	2,816	3,164	715	728	1,143	1,043
Ky.	1,880	1,861	708	687	120	115	123	124	351	350	109	109	290	301	147	145	32	30	957	1,129	615	745	135	147	207	237
Tenn.	1,846	1,771	736	714	139	129	142	140	316	319	138	130	260	243	79	64	35	32	904	1,012	555	648	145	152	204	212
Ala.	1,879	1,804	471	452	140	140	160	163	575	585	130	115	297	254	76	65	30	30	1,006	1,097	640	740	147	150	219	207
Miss.	2,039	2,080	624	643	150	147	160	162	580	614	170	153	243	246	75	79	37	36	590	631	302	337	74	73	214	221
Ark.	1,580	1,485	485	456	109	92	120	115	391	394	98	95	258	229	90	74	30	30	391	426	215	250	66	70	110	106
La.	1,842	1,787	366	377	82	84	97	95	749	727	200	176	249	237	61	55	38	36	380	410	215	245	70	71	95	94
Okla.	3,315	3,182	558	552	129	124	130	204	1,227	1,196	257	220	676	668	225	158	63	60	346	432	240	306	71	76	95	50
Texas	8,587	8,501	1,052	1,031	232	230	262	284	3,843	3,784	635	603	1,902	1,866	429	471	232	232	906	1,087	544	717	130	145	232	225
S. Cent.	22,967	22,471	5,000	4,912	1,100	1,061	1,244	1,287	8,032	7,969	1,737	1,601	4,175	4,044	1,182	1,111	497	486	5,480	6,224	3,326	3,988	838	884	1,316	1,352
Mont.	2,303	2,441	113	108	25	24	34	34	1,045	1,130	246	259	687	730	104	105	49	51	101	125	57	73	22	27	22	25
Idaho	1,253	1,328	254	264	72	81	88	93	312	333	92	93	255	282	155	157	25	25	103	121	65	80	19	20	19	21
Wyo.	1,178	1,072	48	47	14	14	15	15	532	509	99	83	360	317	85	63	25	24	40	40	21	19	7	6	12	15
Colo.	2,096	2,054	187	183	48	43	54	58	779	709	208	236	515	511	255	267	50	47	161	190	92	117	30	26	39	47
N. Mex.	1,175	1,140	53	52	11	11	13	12	641	631	108	98	270	257	56	57	23	22	47	52	24	32	7	7	16	13
Ariz.	909	945	52	53	13	14	15	14	430	406	72	99	201	159	104	180	22	20	25	25	14	13	4	3	7	9
Utah	740	762	115	113	34	29	34	42	261	272	72	73	150	159	60	61	14	13	55	60	34	36	9	10	12	14
Nev.	613	625	17	17	9	8	10	11	310	320	72	68	134	133	47	54	14	14	21	25	9	9	4	4	8	12
Wash.	1,094	1,138	291	300	70	74	90	96	240	256	84	84	207	212	88	91	24	25	80	110	56	76	15	18	9	16
Oregon	1,429	1,458	242	244	64	65	76	82	470	476	130	126	312	321	104	110	31	34	101	138	68	94	20	24	13	20
Calif.	3,349	3,583	900	909	270	271	292	309	761	822	221	290	340	367	485	531	80	84	452	461	225	227	56	56	171	178
Western	16,139	16,546	2,272	2,290	630	634	731	766	5,781	5,864	1,404	1,509	3,431	3,448	1,543	1,676	357	359	1,186	1,347	665	776	193	201	328	370
U. S.	94,787	95,433	24,675	24,408	6,029	5,968	6,597	6,644	23,833	24,166	6,150	6,223	17,498	17,878	8,115	8,308	1,890	1,838	48,560	55,002	28,166	32,195	9,009	9,462	11,385	13,345

U.S. Farm Animal Population by States

Note: Numbers of livestock and poultry on farms and ranches (livestock and poultry not on farms are excluded), Jan. 1, 1955 (000's omitted). Source: USDA.

State	ALL SHEEP AND LAMBS		HORSES AND COLTS		CHICKENS								TURKEYS**									
					Total		Hens		Pullets		Oth. chickens*		ALL TURKEYS						BREEDER HENS			
													Heavy		Light		Total		Heavy		Light	
	1954	1955	1954	1955	1954	1955	1954	1955	1954	1955	1954	1955	1954	1955	1954	1955	1954	1955	1954	1955	1954	1955
Maine	25	27	15	14	4,275	4,464	1,559	1,575	2,615	2,798	101	91	10	7	12	10	22	17	7	6	10	7
New Hampshire	9	9	6	5	2,957	2,995	905	932	1,927	1,927	125	136	17	14	..	3	17	17	7	7	..	..
Vermont	11	10	15	16	1,012	929	296	284	688	619	28	26	12	11	1	1	13	12	7	6	..	..
Massachusetts	12	13	7	7	5,597	5,526	1,224	1,261	4,203	4,119	170	146	50	51	2	2	52	53	23	21	1	1
Rhode Island	2	2	1	1	622	615	167	170	437	428	18	17	4	5	1	..	5	5	2	2	1	..
Connecticut	9	8	5	5	4,535	4,632	1,527	1,588	2,903	2,932	105	112	26	30	1	1	27	33	11	11	1	1
New York	158	153	85	73	14,800	14,887	4,622	4,807	9,240	9,517	938	563	106	149	3	4	109	153	58	65	3	2
New Jersey	14	13	7	7	18,662	18,864	5,107	5,107	12,357	13,098	1,198	659	49	65	7	7	56	72	15	18	4	4
Pennsylvania	357	362	72	63	28,312	27,782	7,202	7,706	18,272	18,089	2,838	1,987	210	174	36	47	246	221	63	60	29	23
N. Atlantic	497	497	214	191	80,772	80,694	22,609	23,430	52,642	53,527	5,521	3,737	484	506	63	77	547	583	193	196	49	38
Ohio	1,330	1,359	82	78	18,748	19,262	4,870	5,016	13,099	13,623	779	623	116	147	32	45	148	192	88	114	28	25
Indiana	495	466	57	50	18,603	19,097	4,473	4,562	13,510	13,915	620	620	42	38	25	19	67	57	25	19	10	5
Illinois	746	717	105	95	21,614	21,398	5,102	4,898	15,912	15,912	600	588	81	81	10	10	91	91	42	42	7	6
Michigan	421	418	54	50	11,375	11,274	3,306	3,438	7,518	7,368	551	468	110	119	19	16	129	135	77	76	16	10
Wisconsin	296	273	126	112	13,620	13,714	4,543	4,588	8,618	8,704	459	422	67	66	19	16	86	82	43	44	7	6
E. N. Central	3,288	3,233	424	385	83,960	84,745	22,294	22,502	58,657	59,522	3,009	2,721	416	451	105	106	521	557	275	295	68	52
Minnesota	984	961	125	102	23,658	24,335	5,967	5,191	17,343	18,730	348	414	204	235	118	77	322	312	144	200	101	67
Iowa	1,357	1,307	110	90	30,052	30,378	5,768	5,595	23,633	24,106	651	677	142	135	5	6	147	141	109	115	5	5
Missouri	848	803	161	126	18,985	18,642	4,607	4,745	13,393	12,991	985	906	228	219	62	57	290	276	163	181	54	45
North Dakota	530	549	95	89	4,085	4,130	1,168	1,133	2,743	2,825	174	172	29	27	3	3	32	30	13	11	2	2
South Dakota	1,149	1,254	99	87	9,045	9,371	2,236	2,393	6,552	6,618	257	360	39	41	5	5	44	46	10	10	3	2
Nebraska	797	778	114	103	12,352	12,342	2,626	2,521	9,136	9,319	590	502	35	34	2	3	37	37	27	27	1	2
Kansas	653	609	99	84	11,934	11,917	3,379	3,142	7,947	8,185	608	590	135	120	13	13	147	132	86	81	9	9
W. N. Central	6,318	6,261	803	681	110,111	111,115	25,751	24,720	80,747	82,774	3,613	3,621	812	811	207	163	1,019	974	552	625	175	132
Delaware	3	3	4	4	1,030	1,030	292	310	681	681	57	39	17	15	3	3	20	18	8	6	2	2
Maryland	45	45	20	20	3,842	3,809	1,096	1,063	2,495	2,545	251	201	60	61	8	7	68	68	44	46	7	6
Virginia	324	327	95	92	8,280	8,375	2,494	2,519	5,095	5,248	691	608	69	77	138	163	207	240	55	57	117	98
West Virginia	317	311	64	60	3,643	3,575	1,442	1,442	1,930	1,949	271	184	23	34	52	31	75	65	9	14	13	11
North Carolina	50	53	66	64	12,404	12,438	4,496	4,361	6,436	6,693	1,472	1,384	60	57	7	7	67	64	35	33	3	3
South Carolina	4	4	19	18	5,144	5,263	1,819	1,928	2,516	2,566	809	769	72	72	22	15	94	87	68	67	11	12
Georgia	15	19	31	30	7,944	8,558	2,775	2,830	4,289	4,804	880	924	59	58	..	..	59	58	35	26	..	..
Florida	3	3	23	22	3,804	3,854	1,552	1,552	1,753	1,788	499	514	25	26	9	6	34	32	15	16	5	4
S. Atlantic	761	764	322	310	46,091	46,902	15,966	16,005	25,195	26,274	4,930	4,623	386	400	239	232	624	632	269	265	158	136
Kentucky	668	688	144	135	10,670	11,229	3,179	3,402	6,719	7,055	772	772	57	45	1	2	58	47	32	30	1	1
Tennessee	293	308	109	105	8,832	8,644	3,483	3,379	4,585	4,631	764	634	25	28	1	2	26	30	14	13	1	1
Alabama	27	33	53	50	7,207	7,605	2,808	2,808	3,391	4,001	1,008	796	16	13	5	7	21	20	13	11	4	4
Mississippi	91	91	88	84	6,999	7,188	3,100	3,193	3,210	3,306	689	689	22	19	..	..	22	19	12	11	..	..
Arkansas	44	47	90	81	6,915	7,271	2,646	2,593	3,585	4,015	684	663	21	25	49	27	70	52	19	13	16	13
Louisiana	122	132	96	92	4,276	4,342	1,473	1,414	2,078	2,203	725	725	20	18	..	2	20	20	9	8	..	..
Oklahoma	197	183	119	105	7,359	7,248	3,170	2,916	3,941	4,099	248	233	57	77	11	8	68	85	47	55	10	6
Texas	5,331	5,331	263	252	21,184	21,388	9,945	9,846	10,116	10,419	1,123	1,123	495	487	114	134	609	621	353	393	102	108
South Central	6,773	6,813	962	904	73,442	74,915	29,804	29,551	37,625	39,729	6,013	5,635	713	712	181	182	894	894	504	533	134	133
Montana	1,749	1,741	104	98	1,681	1,700	507	482	1,101	1,145	73	73	13	13	1	1	14	14	6	6	..	..
Idaho	1,110	1,105	61	56	1,871	1,795	504	433	1,307	1,307	60	55	10	7	1	2	11	9	5	2	1	1
Wyoming	2,183	2,132	63	58	670	662	253	253	397	389	20	20	11	14	..	1	11	15	3	3	..	..
Colorado	1,726	1,702	79	74	2,549	2,546	908	899	1,523	1,553	118	94	34	37	2	3	36	40	8	11	1	1
New Mexico	1,294	1,271	66	61	960	938	446	446	461	438	53	54	11	10	..	..	11	10	8	7	..	..
Arizona	473	461	58	55	644	685	288	279	301	346	55	60	11	10	..	..	11	10	6	6	..	..
Utah	1,488	1,412	41	39	2,761	2,717	1,234	1,049	1,406	1,547	121	121	47	33	6	13	53	46	11	15	15	11
Nevada	478	454	24	23	186	189	69	69	95	100	22	20	..	..	..	..	..	..	..	..	..	..
Washington	329	315	40	37	4,834	4,981	1,533	1,473	2,991	3,230	310	279	115	118	21	13	136	131	74	73	16	10
Oregon	717	689	50	48	3,432	3,626	1,493	1,558	1,638	1,802	296	266	272	247	24	31	296	278	195	177	21	22
California	2,034	2,081	90	86	28,849	29,100	8,468	7,875	15,375	17,220	5,006	4,005	1,069	1,195	62	60	1,131	1,255	614	647	60	47
Western	13,581	13,363	676	635	48,437	48,939	15,708	14,815	26,595	29,077	6,134	5,047	1,593	1,684	117	124	1,710	1,808	930	947	114	92
U. S.	31,218	30,931	3,401	3,106	442,813	447,310	132,132	131,023	281,461	290,903	29,220	25,384	4,403	4,564	913	884	5,315	5,448	2,723	2,851	698	583

State	TURKEYS** BREEDER HENS Total		
	1954	1955	
Maine	17	13	
New Hampshire	7	7	
Vermont	7	6	
Massachusetts	24	22	
Rhode Island	3	2	
Connecticut	12	12	
New York	61	67	
New Jersey	19	22	
Pennsylvania	92	83	
N. Atlantic	242	234	
Ohio	116	139	
Indiana	35	24	
Illinois	49	48	
Michigan	93	86	
Wisconsin	50	50	
E. N. Central	343	347	
Minnesota	245	267	
Iowa	114	120	
Missouri	217	226	
North Dakota	15	13	
South Dakota	13	12	
Nebraska	28	29	
Kansas	95	90	
W. N. Central	727	757	
Delaware	10	8	
Maryland	51	52	
Virginia	172	155	
West Virginia	22	25	
North Carolina	38	36	
South Carolina	79	69	
Georgia	35	26	
Florida	20	20	
S. Atlantic	427	391	
Kentucky	33	31	
Tennessee	15	14	
Alabama	17	15	
Mississippi	12	11	
Arkansas	35	25	
Louisiana	9	8	
Oklahoma	57	61	
Texas	460	501	
South Central	638	666	
Montana	6	6	
Idaho	6	3	
Wyoming	3	3	
Colorado	9	12	
New Mexico	8	7	
Arizona	6	6	
Utah	26	26	
Nevada	..	..	
Washington	90	83	
Oregon	216	199	
California	674	694	
Western	1,044	1,039	
U. S.	3,421	3,434	

*Does not include commercial broilers. **Does not include turkey fryers.

Commercial Baking in the United States

LAWS GOVERNING THE SALE OF BREAD

ALABAMA

All bread must be enriched except bread made from the entire wheat berry with no parts of the wheat removed, bread made from mixtures of white flour and whole wheat flour and specialty breads. It is unlawful to sell or offer for sale any enriched bread which fails to conform to the labeling requirements of the Federal Food, Drug and Cosmetic Act, and the regulations promulgated thereunder. (See page 4.) Bread must be wrapped or packaged individually or in unit quantities and sealed. The wrapper must enclose or have printed or stamped thereon the name and address of the baker, the net weight and the name of the bread.

ARIZONA

The manufacture and sale of bakery products must be so conducted as to prevent the dissemination of disease. No bakery product may be returned after purchase, or accepted or exchanged after sale. The vehicles and receptacles in which bakery products are transported must be in a clean and wholesome condition; containers and places where bakery products are kept or exposed for sale must be kept well covered and properly ventilated. Wrapped bread need not otherwise be covered. Bread must not be placed in any box or receptacle with any other article of food. A loaf of bread, sold, offered or exposed for sale, as fresh bread, must weigh: 1 lb., 1½ lb. or multiples of 1 lb.; determined by the average of not less than 20 loaves of 1 unit, of one kind of bread, weighed with or without wrappers and not less than 12 hours after baking. When twin or multiple loaves are wrapped at the place where baked, or sold to the consumer wrapped and undivided, the loaf must conform to the weight requirements, and if unwrapped or divided prior to sale each unit must conform to weight requirements. A tolerance in excess of the standard weight is allowed of 1 oz. on 1 lb. loaves; 1½ oz. on 1½ lb. loaves, 2 oz. on loaves weighing 2 lb. or more. No tolerance below the standard weight is allowed. Supervising authority: State Department of Health, Phoenix.

ARKANSAS

Bread when displayed must be placed in tight cases or otherwise protected and when transported must be suitably wrapped or packed in clean containers at the shop or plant where baked. It is unlawful for any person to manufacture, bake, sell or offer for sale or to receive in interstate shipment for sale for human consumption, any bread, except 100% whole wheat, unless it has been enriched in accordance with the definition of enriched bread as promulgated by the Federal Security Agency. The label must conform to the requirements of the Food, Drug and Cosmetic Act. (See page 4.)

CALIFORNIA

Bread sold in wrappings must have on the body of the wrapping in letters so as to be clear and legible to the buyer and in a color contrasting with the background, the words "standard loaf" and "standard large loaf." "Standard loaf" must weigh not less than 15 oz. and not more than 17 oz. "Standard large loaf" must weigh not less than 23½ oz. and not over 25½ oz. Each unit of a twin or multiple loaf must conform to the standard weights specified for standard loaf or standard large loaf or any multiple of either of such weights. However, larger loaves that are multiples of the mean weight of a standard loaf weight may be made or procured for sales to public eating places. The total tolerance in excess or deficiency for each larger loaf must not exceed 2 oz.

COLORADO

Before bread is taken from the bakeshop, each loaf or double loaf must be placed in a suitable paper bag or be securely wrapped with clean glazed paper. Bread at all times must be thoroughly protected from contamination.

CONNECTICUT

Bread wrapped in paper or other material must have on the outside of the wrapper a plain statement of weight; if unwrapped, each loaf must have either a pan impression of the weight or a label attached to the loaf on which its weight is plainly printed. Bread must weigh 1 lb. or additional fraction of 1 lb. up to a maximum of 4 lb. No loaf must vary more than 1 oz. per pound from the standard or marked weight within 12 hours after baking. Loaves which weigh less than the minimum standard must have their weight plainly and conspicuously stated on the wrapper or label. All bread wrappers must be printed with the name and address of the baker. The baker who sells in bulk through stores must furnish suitable wrappers bearing the name and address of the manufacturer for use of the retailer in packaging bread for retail sale.

DELAWARE

All bread made from wheat flour in whole or in part must weigh at least 1 lb. avoirdupois.

DISTRICT OF COLUMBIA

Every loaf of bread manufactured for sale, sold or exposed for sale must have affixed in a conspicuous place, a label at least 1 in. square or 1 in. in diameter, on which must be printed in plain bold face Gothic type not smaller than 12 pt., the weight of the loaf in black ink on white paper. The business name and address of the baker must be plainly printed on each label. Standard loaf shall weigh 1 lb. However, bread may be manufactured in loaves weighing ½ lb., 1½ lb., and multiples of a pound.

FLORIDA

Shipping baskets and other containers for transporting bread must be kept clean and used for no other purpose than the distribution of bakery products. All shipping baskets must be lined with clean paper, ventilated and properly covered. The label must include name of product, name and address of the manufacturer or distributor and net weight.

GEORGIA

Label must state net weight and name and address of manufacturer. Statement may appear on the wrapper upon the top or side or if the bread is unwrapped on the label upon the bottom of the loaf. Standard unit loaves are 1 lb., 1½ lb., 2 lb., 3 lb., 4 lb. and 5 lb.

HAWAII

Standard bread loaf sizes are: ¾ lb., 1 lb., 1½ lb., 3 lb. or other lb. weights. Variations at the rate of 1 oz. per lb. over and 1 oz. per lb. under the specified weights are permitted in individual loaves, but the average weight of not less than 25 loaves of any one unit of any one kind must not be less than the weight prescribed. Twin or multiple loaves may be sold provided they conform to the weight requirements.

IDAHO

A whole loaf of bread for sale must weigh not less than 16 oz. 24 hours after baking. Bread, unless composed in chief parts of rye and maize, must be sold in whole or half loaves and not otherwise. Every loaf or half-loaf which does not weigh the full weight required must be plainly labeled with the exact weight.

ILLINOIS

If bread is wrapped the true quantity must be "plainly and conspicuously" marked on the outside in terms of weight. If unwrapped or wrapped in clear cellophane, a small sticker giving the net weight and the name and address of the baker is accepted as a label. All bread must be sold by weight. Standards promulgated by the U.S. Food and Drug Administration will automatically be adopted and enforced.

INDIANA

All white bread and rolls must be enriched to conform to definition and standard of identity in effect for enriched products and must conform to the labeling requirements of the Federal Food, Drug and Cosmetic Act and the regulations promulgated thereunder (see page 4). The label requirement does not apply to unwrapped white bread or rolls which bear no labeling of any kind and which is sold directly to the consumer by the baker. Loaves of bread must be of the following standard weights and no other: ¾ lb., 1 lb., 1½ lb., 1½ lb., 2 lb. and some whole multiple of 1 lb. Allowable tolerances and variations must not exceed 1 oz. per lb. over or 1 oz. per lb. under the standard unit weight. Each loaf must bear a label in a "conspicuous place," which states "plainly and distinctly" the weight together with the business name of the baker or manufacturer. In case of wrapped bread this information must be stated upon the wrapper of each loaf in a "conspicuous position unobscured by the folds of the wrapper"; if unwrapped, the information must be stated upon label, affixed to the loaf which is no larger than 1 by 1½ in. in size and no smaller than 1 in. by ¾ in.

IOWA

There must be printed upon the wrapper of each loaf of bread in a "plain conspicuous" type the name and address of the manufacturer and the weight of the loaf. Bread manufactured, offered or exposed for sale must be one of the following standard weights and no other: ¾ lb., 1 lb., 1¼ lb., 1½ lb., or multiples of 1 lb. In the case of twin or multiple loaves the weight specified must apply to the combined weight of the two units.

KANSAS

Bread must be wrapped in clean unused paper, unprinted or printed on one side only, or placed in a bag which must be sealed or closed. A loaf of bread for sale must weigh 2 lb. Bread, unless composed in chief part of rye or maize, may be sold in whole, half and quarter loaves. Every loaf, half-loaf or quarter-loaf which does not weigh the full weight must be plainly labeled with the exact weight.

KENTUCKY

No person may manufacture, bake, sell or offer for sale for human consumption any bread unless it contains the vitamins and other ingredients necessary to make it conform to the definition and standard of identity of enriched bread or enriched white bread as fixed and established by order of the Federal Security Agency and must conform to the labeling requirements of the Federal Food, Drug and Cosmetic Act. (See page 3.)

LOUISIANA

It is unlawful for any person to manufacture, bake, sell or offer for sale or to receive in interstate commerce for sale for human consumption any bread, except bread which contains no wheat flour or is made from whole wheat flour, unless it is enriched to conform to the definition and standard of identity of bread as promulgated by the Federal Security Agency. And it must conform to the labeling requirements of the State Food, Drug and Cosmetic Law and the Federal Food, Drug and Cosmetic Act. (See page 3.) All enriched bread, when wrapped, must be labeled "Enriched Bread."

MAINE

All bread made for sale must be properly enclosed in a sanitary wrapper. All white bread and rolls must be enriched.

MARYLAND

Bread wrapping is not required, though bread must be properly protected by wrapper or showcase. If wrapped the quantity of the contents must be plainly and conspicuously marked on the outside in terms of weight.

MASSACHUSETTS

All white bread and rolls must be enriched to conform to the standard and tolerances adopted under the provisions of the Federal Food, Drug and Cosmetic Act and the label for wrapped white bread must conform to the labeling requirements. (See page 3.) Enriched bread must be so labeled. Bread must be sold by weight and in units of 1 lb., 1½ lb. and multiples of 1 lb. In multiple loaves each unit must conform to the required weight. Unit weights do not apply to fancy bread weighing less than 4 oz. nor to loaves bearing in plain position a "plain statement of the weight of the loaf and name of the manufacturer." This information may appear on the wrapper or if unwrapped by means of a pan impression or label not larger than 1 by 1⅝ in. nor smaller than 1 by 1½ in.

MICHIGAN

All white bread sold or offered for sale by retail food outlets must be standardized in 12 oz., 16 oz., 20 oz., 24 oz. and 32 oz. with 1 oz. tolerance. Wrapped bread must bear the "true net weight" and name and address of the manufacturer, jobber or retailer.

U.S. Baking Industry, General Statistics for 1947 and Earlier Years

Note: These figures cover establishments primarily engaged in the manufacture of bakery products. These establishments are classified in two industries: those chiefly engaged in manufacturing bread, cakes, hand-made cookies, doughnuts, pies, pastries and similiar perishable bakery products and those engaged in producing "dry" bakery products such as biscuits, crackers and pretzels. **Source: U.S. Bureau of the Census**

(Money figures in thousands of dollars)

Industry and census year	All employees			Production and related workers			Cost of materials, fuel, electricity and contract work	Value of products shipped†
	No. of establishments	Number (aver. for the year)	Salaries and wages, total	Number (aver. for the year)	Wages, total	Value added by manufacture*		
Bread and other bakery products—								
1947 total	6,797	233,310	$655,979	150,055	$351,126	$1,100,836	$1,316,055	$2,416,891
Bakeries selling primarily to grocers..	3,455	136,867	397,262	85,600	198,529	673,861	819,724	1,493,585
Bakeries selling primarily to hotels, restaurants and institutions	1,564	26,978	72,091	20,263	47,658	120,393	150,880	271,383
Retail multi-outlet bakeries	1,064	26,802	58,313	18,540	43,129	104,868	114,944	219,812
Bakeries selling primarily through house-to-house routes	624	30,724	98,752	14,894	35,702	149,805	132,132	281,937
Grocery chain bakeries	90	11,939	29,561	10,758	26,108	51,909	98,265	150,174
1939‡	10,325	¶217,000	¶298,000	¶180,202	¶236,576	573,837	491,498	1,065,335
1939§	18,043	247,591	330,666	201,533	262,002	643,507	567,427	1,211,024
1937	16,874	231,258	304,309	210,597	265,354	588,598	629,267	1,217,865
1935	18,720	207,771	255,763	189,182	222,645	471,736	580,728	1,052,464
1933	14,483	169,378	195,446	155,229	174,423	399,340	370,992	770,332
1931	17,364	***	***	154,764	212,353	543,373	436,531	979,904
1929	20,410	183,926	279,770	166,970	240,354	621,622	629,990	1,251,621
1927	17,909	154,245	239,816	139,013	202,197	560,406	585,304	1,145,710
1925	17,490	142,235	216,008	128,034	187,666	462,920	560,748	1,023,668
1923	18,572	142,269	213,579	127,496	183,221	425,949	485,169	911,118
1921	20,024	132,611	195,824	117,026	169,829	386,895	515,568	902,463
1919	24,919	131,504	166,856	107,251	132,171	337,771	610,105	947,876
1914	25,797	113,976	79,681	99,016	66,072	171,825	230,584	402,409
Biscuit, crackers and pretzels—								
1947	326	46,058	109,223	37,526	78,361	264,973	275,249	540,222
1939	356	35,930	42,059	29,173	28,550	118,743	82,050	200,793
1937	319	31,877	35,146	28,791	28,641	110,543	97,755	208,298
1935	348	32,159	32,060	29,241	25,888	93,295	89,313	182,608
1933	347	29,475	26,238	27,153	22,250	92,972	56,473	149,445
1931	354	***	***	28,397	26,978	141,197	68,946	210,143
1929	375	38,556	44,676	33,871	34,208	167,389	107,101	274,490
1927	220	37,387	43,120	32,982	34,029	141,058	107,932	248,990
1925	194	36,918	41,129	32,377	31,946	137,259	107,268	244,527
1923	167	39,868	40,500	35,117	31,358	122,437	89,351	211,788

***Not available.

*Value of products less cost of materials, supplies, fuel, electricity and contract work.

†For 1947 and 1929, value of products shipped; for all other years, value of products made.

‡The 1939 figures in regular type are based on retabulations of 1939 census schedules classified in accordance with 1947 industry definitions and, except for production worker data, are comparable with the figures for 1947. The bold face figures for 1939 have not been retabulated and are comparable with the figures for earlier years.

¶Estimated by applying to retabulated data on number and wages of production workers the following ratios, respectively, computed from published 1939 statistics: (1) Total number of employees to number of production workers in establishments classified as "wholesale" and "wholesale and retail" and (2) wages paid to all employees to wages paid to production workers in the same categories.

§Figures are for wage earners, including driver-salesmen, and are not comparable with 1947. Analysis of a sample of 1939 returns indicates that somewhat over 40% of these wage earners were driver-salesmen.

MINNESOTA

Every loaf of bread offered for sale must bear a label giving the name and address of the baker and a statement of net weight. Standard sizes are: 1 lb., 1½ lb. or any multiple of 1 lb. This information must be printed in type not smaller than 8 pt. capitals. In the case of unwrapped bread the information may appear on a sticker label and in the case of wrapped bread either printed upon the wrapper or if the wrapper consists of clear, transparent wax paper or cellophane the label must be inserted underneath the wrapper on top of the loaf. This insert label must be at least 2½ by 3½ in. so that it will not slip underneath loaf where it cannot be seen and it must be printed in bold face type that will be readily legible through the wrapper.

MISSISSIPPI

All bread manufactured for sale must be identified by marking in legible letters the minimum weight thereof with the following phrase "not less than." All bread must be wrapped in clean paper, each loaf separately, before being distributed for sale.

MISSOURI

There is no regulation requiring the wrapping of bread, though it must be properly protected by wrapper or showcase. If wrapped it must bear a label containing the name and place of business of the manufacturer and an "accurate" statement of the weight.

MONTANA

Wrapped bread must be labeled in "plain, intelligible words and figures" with a correct statement of the net weight. A loaf of bread for sale must weigh 8 hours after baking one of the following weights: 1 lb., 1½ lb., 2 lb., 3 lb., 4 lb., 5 lb., 6 lb., or other multiple pound weights. Variations of 1 oz. per lb. over and 1 oz. per lb. under are permitted in individual loaves but the average weight of 25 loaves of any one unit or of any one kind must be not less than the weight prescribed for such unit.

NEBRASKA

Every loaf of bread made for sale must be one of the following weights: ½ lb., 1 lb., 1¼ lb., 1½ lb., and exact multiples of 1 lb. and no other weights. Each unit of a twin or multiple loaf must weigh one of the specified weights. The wrapper of each loaf of bread must have printed thereon in "plain conspicuous type" the weight of the loaf.

NEVADA

All bread manufactured, sold or offered for sale in the form of loaves must be one of the following standard weights: ½ lb., 1 lb., 1½ lb., or multiples of 1 lb. with reasonable variations in excess and deficiency allowed. A weight statement is permitted on bread wrappers for standard pound loaves as follows: "Minimum Net Weight—15 oz." In addition to the weight statement all bread must show the name of the manufacturer, packer or distributor and place of business.

NEW HAMPSHIRE

Before removal from the bakery section of an establishment, all loaves of bread must be wrapped in clean new paper, plainly showing its weight and the name of the manufacturer. All white bread must be enriched.

NEW JERSEY

All bread must be sold by weight. The weight of all loaves offered for sale must be specified by the baker or dealer to the consumer, if the consumer requires it. Bread, wrapped at bakeries in wax paper or otherwise for sanitary or other purposes in advance of delivery or sale, is considered as food in packaged form and must be plainly labeled. White bread must be enriched.

NEW MEXICO

All bread offered for sale or sold must be of the following standard weights and no other: 1 lb., 1½ lb. or some multiple thereof. Allowable tolerances must not exceed ½ oz. per lb. over or ¼ oz. per lb. under. Each loaf of bread offered for sale or sold must bear a label on which is plainly and distinctly printed the weight of the loaf stated in pounds or fractions of pounds together with the business name of the baker or manufacturer. In case of wrapped bread such information may be upon the wrapper of each loaf in a conspicuous place not hidden by folds of the wrapper. The label attached to an unwrapped loaf must be no larger than 1 by 1½ in. or not smaller than 1 by ¾ in.

NEW YORK

Bread must not be manufactured for sale or sold or offered or exposed for sale otherwise than by weight. Weight standards are: 1 lb., 1½ lb., and multiples of 1 lb. Each unit of a multiple loaf must conform to standard weight. Weights are determined by the average weight of not less than 6 loaves. Such weights do not apply to loaves bearing in "a plain and conspicuous" position a "plain statement" of the net weight of the loaf and the name and address of the manufacturer upon the wrapper of each loaf if wrapped or if unwrapped upon a label affixed to the loaf in a sanitary manner. The statement upon the wrapper or label must be in plain, heavy, Gothic capital letters and figures not less than 5/32 in. in height and so placed as to appear on the top or side and not upon the end or bottom of the loaf. Unwrapped bread that is labeled may have the label upon the bottom of the loaf. White bread must be enriched.

NORTH CAROLINA

The net weight must be "plainly and conspicuously" marked on wrapped bread. All white bread including rolls and biscuits of the bread-dough type must be enriched. Each loaf shall be of one of the following weights and lengths and no other, to wit: One pound, 11½ in. maximum length, 5 in. maximum width at bottom; 1½ lb., 15 in. maximum length, 5 in. maximum width at bottom; 2 lb., 15 in. maximum length, 5 in. maximum width at bottom; 2½ lb., 15 in. maximum length, 5 in. maximum width at bottom. The term loaf as used in this section shall be construed to mean a loaf which is baked in a pan of rectangular shape, either with straight up or flared side, either with or without cover, and shall be known hereafter as the standard loaf.

NORTH DAKOTA

A loaf of bread must weigh 16 oz., 24 oz., or a whole multiple of 16 oz. These weights apply alike to each unit or a twin or multiple loaf. The required weight must as often be above as below the permissible weights. All white bread must be enriched.

Baking Industry — Quantity and Value of Products, 1947 and 1939

Note: These figures cover establishments primarily engaged in the manufacture of bakery products. Source: U.S. Bureau of the Census

(Quantity and value figures in thousands)

Product	Bakery products (except biscuits, crackers and pretzels) industry — Wholesale: Selling to grocers and grocery chain bakeries	Wholesale: Selling to hotels, restaurants and institutions	Retail: House-to-house	Retail: Retail multi-outlet	Biscuit, crackers and pretzels industry	Other industries	1947 total	1939 total*
Bread, total value	**$973,457**	**$52,653**	**$130,908**	**$37,365**	**$2,439**	**$34**	**$1,196,856**	•••
White pan—								
Pounds	7,239,748	271,499	812,727	175,717	21,224	242	8,521,157	7,218,843
Value	$783,046	$31,297	$101,132	$19,915	$2,145	$25	$937,560	$491,521
White hearth—								
Pounds	211,099	37,375	37,537	20,106	....	....	306,117	
Value	$25,757	$4,357	$5,054	$2,714	....	....	$37,882	
Whole wheat, cracked wheat and other dark wheat breads—								
Pounds	727,396	29,764	101,034	33,706	†	1,612	893,411	1,731,225
Value	$84,497	$3,588	$12,999	$4,204	†	$199	$105,487	$128,210
Rye, including pumpernickel—								
Pounds	448,748	63,331	55,897	44,865	†	550	613,391	
Value	$56,183	$7,775	$7,851	$6,139	†	$68	$78,016	
Raisin and other specialty breads—								
Pounds	138,842	11,158	21,221	20,994	261	....	192,476	462,580
Value	$19,443	$1,487	$3,505	$3,342	$36	....	$27,813	$37,428
Bread, not reported in detail, value	$4,531	$4,149	$367	$1,051	....	....	$10,098	‡
Rolls, cakes, pies and pastries, total value	**$564,077**	**$179,186**	**$124,642**	**$136,381**	**$5,682**	**$1,433**	**$1,011,401**	•••
Rolls, bread type—								
Pounds	664,253	165,228	48,417	62,459	†	2,434	942,791	
Value	$102,897	$25,402	$10,503	$13,410	†	$437	$152,643	
Sweet yeast goods—								1,068,302
Pounds	305,779	96,743	110,086	97,310	†	2,410	612,328	
Value	$79,652	$27,404	$39,598	$34,856	†	$659	$182,169	$140,136
Doughnuts, cake type—								
Dozens	192,450	64,542	23,244	27,901	1,445	9	309,591	336,019
Value	$46,318	$16,202	$8,953	$8,414	$312	$4	$80,203	$55,375
Soft cakes—								
Pounds	873,587	84,337	128,406	113,656	9,795	426	1,210,207	953,195
Value	$267,806	$24,841	$48,766	$45,033	$4,013	$204	$390,663	$186,131
Pies—								
Pounds	197,478	307,791	33,506	61,314	†	552	600,641	•••
Value	$45,678	$70,840	$11,447	$18,501	†	$284	$146,750	$75,121
Pastries, all types, value	$5,178	$5,686	$2,122	$7,709	†	$97	$20,792	$24,346
Cookies, hand-made—								
Pounds	35,791	15,704	7,797	17,172	†	4,132	80,596	111,986
Value	$9,935	$5,022	$2,827	$6,358	†	$973	$25,115	$19,716
Rolls, cakes, pies, etc., not reported in detail, value	$6,619	$3,789	$426	$2,100	....	$132	$13,066	‡
Bakery products, not reported in detail, value¶	$63,473	$36,717	$13,104	$37,949	$101	$481	$151,825	‡$27,214
Biscuit, crackers and pretzels, total value	**$20,019**	**$1,335**	**$7,943**	**$3,281**	**$519,950**	**$5,277**	**$557,805**	**$213,755**
Cookies, machine-made—								
Pounds	64,305	†	18,620	8,548	921,382	14,361	1,027,216	
Value	$15,832	†	$7,441	$2,804	$297,507	$3,518	$327,102	
Crackers, sponge, grahams, sprayed varieties, and low-sugar content biscuit—								1,611,558
Pounds	†							$207,693
Value	†	†	†	†	$206,389	$6,937	$213,326	
Pretzels—								
Pounds	†	†	†	†	68,835	5,333	74,168	52,331
Value	†	†	†	†	$16,054	$1,323	$17,377	$6,642
Retail outlets in operation Oct. 15	$1,493	733	497	5,733	....	....	8,456	8,913
House-to-house routes in operation Oct. 15	2,300	§13	10,771	297	....	....	13,581	18,472

•••—Not available.

*The 1939 figures include the production of retail single-outlet bakeries and are not closely comparable with the 1947 data. Production of such bakeries amounted to about 10% of the total for 1939, but this percentage cannot be applied to specific products; the percentage accounted for by small bakeries is undoubtedly much larger in the case of specialty breads, pastries, doughnuts and hand-made cookies, and smaller for other items.

†Combined with "other industries," to avoid disclosure of figures for individual companies. Combined figures are in bold face.

‡Combined with "bakery products, not reported in detail."

¶Represents total sales of companies unable to report products in detail. The value of products included other than bread, rolls, cakes and pastries is negligible.

§In addition, 9,889 outlets were reported by grocery chain bakeries.

Quantity and Value of Bakery Products (Revised)

(All figures in thousands)

Product—	1947 Pounds	1947 Value	1939 (revised)* Pounds	1939 (revised)* Value
Products specified, total	13,682,065	$2,017,551	10,886,000	$939,000
1. White pan bread	8,521,157	937,560	6,823,000	460,000
2. Other bread, except specialty	1,812,919	221,385	1,578,000	116,000
3. Raisin and other specialty bread	192,476	27,813	441,000	35,000
4. Rolls and sweet yeast goods	1,555,119	334,812	870,000	112,000
5. Cakes, doughnuts & handmade cookies	1,600,394	495,981	1,174,000	216,000

•The previously published 1939 figures have been adjusted to exclude production of retail single-outlet bakeries on the basis of a retabulation of data for a random sample of 136 such bakeries. Coefficients of variation computed by standard methods indicate that the chances are 19 out of 20 that the estimated figures differ from the true figures by less than the following percentages: Item 1, 1.6%; item 2, 4%; item 3, 2.4%; item 4, 4.6% and item 5, 3.1%.

OHIO

Every loaf of bread sold, manufactured for sale or exposed for sale must have affixed thereon a "plain statement in plain position" of the weight of the loaf, the business name and address of the maker, baker or manufacturer. In the case of wrapped bread the information must be stated on the wrapper of each loaf and in the case of unwrapped bread the information must appear by means of a pan impression or other mechanical means or may be stated on a label using plain legible type. Bread must not be sold otherwise than by weight and in units of not less than 16 oz.

OKLAHOMA

The Oklahoma Food Act (1949) conforms to the food sections of the Federal Food, Drug and Cosmetic Act. The Federal Definitions and Standards of Identity for Bakery Products have been adopted (Nov. 28, 1954). Oklahoma Statutes require all white bread to be enriched.

OREGON

Bread baked for sale must be one of the following standard weights: Standard loaf, not less than 15 oz. nor more than 17 oz.; standard large loaf, not less than 22½ oz. nor more than 25½ oz. The weight specified applies to each unit of a twin or multiple loaf. Wrapped bread must be marked plainly with the net weight.

PENNSYLVANIA

All wrapped bread must bear in a clear and legible manner the name of the bakery manufacturing the product. The name must clearly indicate the identity of the bakery in such a manner that its individual registration can be ascertained or the name and address of the distributor or wholesale dealer, preceded or followed by the words "Distributed by" or "Distributor" as the case may be. Packages bearing a packer's, a distributor's or wholesale dealer's name and address in lieu of the actual name of the bakery must bear a code identifying the manufacturer or bakery. **All bakery products must show on the label that the bakery holds a Pennsylvania bakery license and that the goods are registered by stat-**

Estimated Flour Consumption by the U.S. Baking Industry, by States, 1947

Note: These figures cover establishments primarily engaged in the manufacture of bakery products. Source: U.S. Bureau of the Census

(In thousands of 100-lb. sacks)

Division and state	Amount reported as consumed*	Estimated consumption of all plants included in the census†	Estimated total consumption in bakeries (including one-shop retailers)‡
United States	**97,023**	**104,810**	**123,364**
New England—			
Maine	609	629	675
New Hampshire	291	306	379
Vermont	191	202	242
Massachusetts	3,998	4,339	4,951
Rhode Island	648	675	782
Connecticut	1,089	1,230	1,483
Middle Atlantic—			
New York	11,593	12,507	15,171
New Jersey	3,209	3,452	5,123
Pennsylvania	8,836	9,552	10,469
East North Central—			
Ohio	7,208	7,556	8,644
Indiana	2,706	2,917	3,311
Illinois	6,070	6,528	8,134
Michigan	4,405	4,757	5,594
Wisconsin	1,858	1,987	2,599
West North Central—			
Minnesota	1,671	1,785	2,399
Iowa	1,795	2,006	2,435
Missouri	3,899	4,091	4,606
North Dakota	328	376	468
South Dakota	212	313	405
Nebraska	970	1,006	1,173
Kansas	904	1,010	1,194
Pacific—			
Washington	1,497	1,607	1,953
Oregon	1,077	1,178	1,391
California	6,949	7,311	9,197
South Atlantic—			
Delaware	304	360	375
Maryland	1,614	1,793	2,030
District of Columbia	941	987	1,037
Virginia	1,402	1,551	1,689
West Virginia	1,198	1,222	1,310
North Carolina	1,433	1,519	1,621
South Carolina	589	608	682
Georgia	1,853	1,946	2,069
Florida	1,266	1,498	1,754
East South Central—			
Kentucky	1,120	1,163	1,349
Tennessee	1,872	1,942	2,093
Alabama	858	922	987
Mississippi	545	592	659
West South Central—			
Arkansas	607	661	730
Louisiana	1,332	1,583	1,781
Oklahoma	1,043	1,237	1,410
Texas	4,360	4,817	5,395
Mountain—			
Montana	278	358	432
Idaho	152	283	333
Wyoming	87	97	127
Colorado	1,077	1,150	1,303
New Mexico	185	236	289
Arizona	357	394	466
Utah	504	518	598
Nevada	33	53	68

*Includes consumption indicated by plants classified in the bread and other bakery products and the biscuit, crackers and pretzels industries which submitted detailed data on consumption of various specified materials.

†Computed by increasing reported consumption (column 1) by percentage which sales of establishments not reporting detailed data on materials consumption bore to sales of establishments reporting detailed materials consumption data.

‡Computed by increasing column 2 by percentage which maximum employment of establishments excluded from the census (single retail outlet bakeries) bore to average total employment of all establishments included in the census. It was necessary to use employment data because no sales data were available for single retail outlet bakeries. Note that because of the method of estimation these figures do not include flour used by bakeries with no employees.

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ing "Reg., Pennsylvania Department of Agriculture." When transparent wrappers are used the printed statement may be inserted in a conspicuous position between the wrapper and the top of the loaf or printed on a band or wrapper around the top of the loaf.

RHODE ISLAND

Wrapped bread must have printed thereon the name and address of the manufacturer and the net weight. White bread must be enriched.

SOUTH CAROLINA

All white bread sold, or offered for sale, must be enriched, and all enriched bread sold in the state must be labeled in accordance with the regulations of the Federal Security Agency (see page 3) governing enriched bread sold in interstate trade. The requirements do not apply to bread made from the entire wheat with no parts of the wheat removed. A label must be on each individual loaf, either printed on the wrapper or on a band around the wrapped bread, or labeled by any other practical method.

SOUTH DAKOTA

There must be printed on the wrapper of every loaf of bread in plain and conspicuous type not smaller than 10 pt. Gothic capital letters and figures the name and address of the manufacturer of the bread, the net weight of the loaf and descriptive name or term designating the kind of bread, if it is not white bread. The net weight must be expressed in terms of one of the standard units of weight or in lieu of statement of weight, by the words, "South Dakota standard weight loaf." This information must be shown upon that portion of the bread wrapper which can be easily seen or read by the consumer. If transparent wrapping material is used the information may be printed on a label and inserted between the loaf and wrapping. Standard weights for loaves of bread are: 1 lb., 1½ lb., and multiples of ½ lb. All white bread must be enriched.

TENNESSEE

All bread sold, offered or exposed for sale in package form must carry the name of the product, name and address of the party responsible for placing it upon the market, correct weight and a complete list of the ingredients. The standards and definitions are the same as those adopted by the Federal Food and Drug Administration.

TEXAS

All bread must be enriched except bread made from whole wheat flour or bread which contains no wheat flour. It is unlawful to sell or offer for sale enriched bread which fails to conform to the labeling requirements of the State Food and Drug Act and of the Federal Food, Drug and Cosmetic Act (see page 3) and the regulations promulgated thereunder. Bread to be sold must weigh one of the following standards of weight and no other: 1 lb. (16 oz.), 1½ lb. (24 oz.), 2 lb. (32 oz.), 3 lb. (48 oz.) or some other multiple of 1 lb. or 16 oz.

UTAH

All bread must be sold only in loaves of 1 lb. or multiples of 8 oz. in excess of 1 lb. Each loaf must have attached thereto a label plainly showing its correct weight and the name of the manufacturer. The weight markings on bread must be of type at least ⅛ in. in height, in plain Gothic letters and placed in such a position as to be plainly seen and not obscured or surrounded by other designs or printing as to make it difficult to be read.

VERMONT

Each loaf of bread sold or for sale must be wrapped separately in waxed paper, tissue paper or some similar wrapper or sanitary container. Variations from the marked weight may be as often above as below the marked weight and the average weight of all loaves of the same kind, not less than six in number available for weighing at the same time and place must at least equal the marked weight of such loaves.

VIRGINIA

All bread sold, offered or exposed for sale must have conspicuously affixed thereon a label printed in English in letters and figures not smaller than ¼ in. in height, the net weight of the loaf when baked and the name and address of the baker or manufacturer. Tolerances and variations of weight must not exceed 1 oz. on 1 lb. loaves and 2 oz. on loaves weighing more than 2 lb.

WASHINGTON

All wrapped bread must have around it or attached thereto a label which properly indicates the weight and name and place of manufacture. A loaf of bread must weigh one of the following standard weights (12 hours after baking): 1 lb., 1½ lb., 2 lb., 3 lb., 4 lb., 5 lb. or other pound weights. All white bread must be enriched.

WEST VIRGINIA

All white bread, rolls and buns sold or offered for sale must be enriched and must be labeled "Enriched Bread," "Enriched Rolls" or "Enriched Buns." A label must appear on each loaf either on the wrapper or on a band around the wrapped bread, or by any other practical means.

WISCONSIN

The standard weights for loaves of bread for sale, offered or exposed for sale are: 1 lb., 1½ lb. or multiples of 1 lb. There is no specific requirement that bread be wrapped, but if it is wrapped it must bear the name and address of the manufacturer and the net weight of its contents.

WYOMING

All white bread must be enriched to conform to the definitions and standards of identity as fixed and established by the Federal Security Agency pursuant to the provisions of the Federal Food, Drug and Cosmetic Act (see page 3). Label must conform to its labeling requirements.

ABA Presidents

Past and current presidents of the American Bakers Assn.: 1897-98, Charles Schneider, Washington; 1899, L. J. Kolb, Philadelphia, Pa.; 1900, J. E. McKinney, St. Louis, Mo.; 1901, Robert Morton, Detroit, Mich.; 1902, F. R. Shepard, Boston, Mass.; 1903, W. M. Regan, Minneapolis, Minn.; 1904, Mark Simon, Cincinnati, Ohio; 1905, B. Howard Smith, Kansas City, Mo.; 1906, Adolph Boettler, St. Louis, Mo.; 1907, H. B. Leary, Washington; 1908, Simon Hubig, Cincinnati, Ohio; 1909, W. M. Meek, Los Angeles, Cal.; 1910, Paul Schulze, Chicago, Ill.; 1911, George Clarke, Jamestown, N.Y.; 1912, F. H. Hohengarten, St. Louis, Mo.; 1913, Mark Bredin, Toronto, Can.; 1914, George Haffner, Ft. Wayne, Ind.; 1915, Jay Burns, Omaha, Neb.; 1916, S. F. McDonald, Memphis, Tenn.; 1917, Henry Stude, Houston, Texas; 1918, George S. Ward, New York, N.Y.; 1919, Gordon Smith, Mobile, Ala.; 1920, C. N. Power, Pueblo, Colo.; 1921, Win Campbell, Kansas City, Mo.; 1921, A. L. Taggart, Indianapolis, Ind.; 1922, W. H. Korn, Davenport, Iowa; 1923, R. K. Stritzinger, Norristown, Ga.; 1924-25, Lewis F. Bolser; 1925-26, L. J. Schumaker, Philadelphia, Pa.; 1926-36, Henry Stude, Chicago, Ill.; 1937-42, L. J. Schumaker, Philadelphia, Pa.; 1943, Ralph Ward, Brooklyn, N.Y.; 1943-46, J. T. McCarthy, Toledo, Ohio; 1947-48, C. P. Binner, Chicago, Ill.; 1948-49, Arthur Vos, Jr., Denver, Colo.; 1949-50; Eugene K. Quigg, Richmond, Ind.; 1950, John T. McCarthy, Toledo; 1950-51, Karl E. Baur, Pittsburgh; 1951-52, J. Roy Smith, Mobile, Ala.; 1952-55, E. E. Kelley, Jr., Chicago.

Definitions and Standards of Identity for Bread Products

§ 17.1 **Bread, white bread, and rolls, white rolls, or buns, white buns; identity; label statement of optional ingredients.** (a) Each of the foods bread, white bread, rolls, white rolls, buns, white buns is prepared by baking a kneaded yeast-leavened dough, made by moistening flour with water or with one or more of the optional liquid ingredients specified in this section or with any mixture of water and one or more of such ingredients. The term "flour," unqualified, as used in this section, includes flour, bromated flour, and phosphated flour. The potassium bromate in any bromated flour used and the monocalcium phosphate in any phosphated flour used shall be deemed to be optional ingredients in the bread or rolls. Each of such foods is seasoned with salt, and in its preparation one or more of the optional ingredients prescribed by subparagraphs (1) to (14), inclusive, of this paragraph may be used:

(1) Shortening, in which or in conjunction with which may be used lecithin, mono- and diglycerides of fat-forming fatty acids (except lauric acid), or diacetyl tartaric acid esters of mono- and diglycerides of fat-forming fatty acids (except lauric acid) or a combination of two or more. The total weight of mono- and diglycerides, including diacetyl tartaric acid esters of mono- and diglycerides of fat-forming fatty acids, used does not exceed 20% by weight of the combination of such a preparation and the shortening, and the total amount of monoglyceride in such mixture does not exceed 8% by weight of the combination; but if purified or concentrated monoglyceride is used the amount of such a preparation does not exceed 10% by weight of the combination of such preparation and the shortening. For the purposes of this section the lecithin may include related phosphatides derived from the corn or soybean oil from which the lecithin was obtained.

(2) Milk, concentrated milk, evaporated milk, sweetened condensed milk, dried milk, skim milk, concentrated skim milk, evaporated skim milk, sweetened condensed partly skimmed milk, sweetened condensed skim milk, nonfat dry milk solids, or any combination of two or more of these; except that any such ingredient or combination, together with any butter and cream used, is so limited in quantity or composition as not to meet the requirements for milk or dairy ingredients prescribed for milk bread by § 17.3.

(3) Buttermilk, concentrated buttermilk, dried buttermilk, sweet cream buttermilk, concentrated sweet cream buttermilk, dried sweet cream buttermilk, cheese whey, concentrated cheese whey, dried cheese whey, milk proteins, or any combination of two or more of these.

(4) Liquid eggs, frozen eggs, dried eggs, egg yolks, frozen egg yolks, dried yolks, egg white, frozen egg white, dried egg white, or any combination of two or more of these.

(5) Sugar, invert sugar (in congealed or syrup form), light-colored brown sugar, refiner's syrup, dextrose, honey, corn syrup, glucose syrup, dried corn syrup, dried glucose syrup, nondiastatic malt syrup, nondiastatic dried malt syrup, molasses (except blackstrap molasses), or any combination of two or more of these.

(6) Malt syrup, dried malt syrup, malted barley flour, malted wheat flour, each of which is diastatically active; harmless preparations of enzymes obtained from Aspergillus oryzae, or any combination of two or more of these.

(7) Inactive dried yeast of the genus Saccharomyces cerevisiae; but the total quantity thereof is not more than 2 parts for each 100 parts by weight of flour used.

(8) Harmless lactic-acid producing bacteria.

(9) Corn flour (including finely ground corn meal), potato flour, rice flour, wheat starch, cornstarch, milo starch, potato starch, sweet potato starch (any of which may be wholly or in part dextrinized), dextrinized wheat flour, soy flour, or any combination of two or more of these; but the total quantity thereof is not more than 3 parts for each 100 parts by weight of flour used.

(10) Ground dehulled soybeans, which may be heat-treated and from which oil may be removed, but which retain enzyma'ic activity; but the quantity thereof is not more than 0.5 part for each 100 parts by weight of flour used.

(11) Calcium sulfate, calcium lactate, calcium carbonate, dicalcium phosphate, ammonium phosphates, ammonium sulfate, ammonium chloride, or any combination of two or more of these; but the total quantity of such ingredients is not more than 0.25 part for each 100 parts by weight of flour used.

(12) Potassium bromate, potassium iodate, calcium peroxide, or any combination of two or more of these; but the total quantity thereof (including the potassium bromate in any bromated flour used) is not more than 0.0075 part for each 100 parts by weight of flour used.

(13) (i) Monocalcium phosphate,

Materials Consumed in U.S. Baking Industry by Kind, 1947

Note: These figures cover establishments primarily engaged in the manufacture of bakery products. Source: U.S. Bureau of the Census

(All figures in thousands)

Material	Total for the industries	Bakery products (except biscuit, crackers and pretzels) industry: Wholesale: Selling to grocers	Wholesale: Selling to hotels, restaurants, and institutions	Wholesale: Grocery chain bakeries	Retail: House-to-house	Retail: Retail multi-outlet	Biscuit, crackers and pretzels industry
Wheat flour—							
Sacks (100 lb.)	97,023	60,951	5,585	5,116	7,870	3,213	14,288
Value	$570,383	$358,719	$35,728	$31,238	$48,790	$21,043	$74,865
Sugar, cane and beet—							
Pounds	1,139,096	540,297	119,177	62,513	84,615	93,973	238,521
Value	$97,904	$46,022	$10,103	$5,576	$7,236	$8,147	$20,829
Lard—							
Pounds	350,597	167,176	29,879	12,250	25,862	13,123	103,107
Value	$93,032	$44,038	$7,826	$3,296	$6,696	$3,636	$27,541
Shortening—							
Pounds	315,872	128,469	44,257	21,520	32,023	34,205	55,398
Value	$99,778	$40,150	$13,943	$7,515	$10,321	$11,278	$16,571
Other fats and oils—							
Pounds	125,238	25,810	7,360	**	**	10,560	70,943
Value	$37,700	$7,781	$2,461	**	**	$3,268	$18,790
Dried milk—							
Pounds	223,929	148,846	20,245	16,251	19,838	8,856	8,893
Value	$29,558	$18,736	$2,830	$2,257	$2,548	$1,586	$1,581
Frozen eggs—							
Pounds	196,702	93,663	24,474	20,759	23,429	27,238	9,139
Value	$66,169	$30,622	$8,374	$6,576	$7,676	$9,757	$3,104
Dried eggs—							
Pounds	$36	365	131	*	90	52	238
Value	$1,125	$448	$156	*	$107	$67	$347
Per cent of coverage†	92.7	93.7	80.2	98.0	94.0	80.6	98.1

**Withheld to avoid disclosing figures for individual companies.
*Less than 500.
†Value of shipments of establishments reporting kinds of materials consumed, as a percentage of the total value of shipments of all establishments.

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Bakery Flours

MINNEAPOLIS 15, MINNESOTA

but the total quantity thereof, including the quantity in any phosphated flour used and any quantity added, is not more than 0.75 part by weight for each 100 parts by weight of flour used; or

(ii) A vinegar, in a quantity equivalent in acid strength to not more than 1 pint of 100-grain distilled vinegar for each 100 lb. of flour used;

(iii) Calcium propionate, sodium propionate, or any mixture of these, but the total quantity thereof is not more than 0.32 part for each 100 parts by weight of flour used; or

(iv) Sodium diacetate, but the quantity thereof is not more than 0.4 part for each 100 parts by weight of flour used; or

(v) Lactic acid, in such quantity that the pH of the finished bread is not less than 4.5.

(14) Spice, with which may be included spice oil and spice extract. Each of such foods contains not less than 62% of the total solids, as determined by the method prescribed in "Official Methods of Analysis of the Association of Official Agricultural Chemists," Seventh Edition, 1950, page 209, section 13.70, under "Total Solids in an Entire Loaf of Bread," except that if the baked unit weighs 1 lb. or more one entire unit is used for the determination, and if the baked unit weighs less than 1 lb., such number of entire units as weigh 1 lb. or more is used for the determination.

(b) Bread, white bread is baked in units each of which weighs ½ lb. or more after cooling. Rolls, white rolls, and buns, white buns are baked in units each of which weighs less than ½ lb. after cooling.

(c) (1) When any optional ingredient permitted by paragraph (a) (13) of this section is used, except a vinegar and except monocalcium phosphate in a quantity less than 0.25 part for each 100 parts by weight of flour, the label shall bear the statement "—— added to retard spoilage," the blank being filled in with the name by which the ingredient used is designated in such paragraph.

(2) When an optional ingredient permitted by paragraph (a) (14) of this section is used, the label shall bear the statement "spiced" or "spice added" or "with added spice"; but in lieu of the word "spice" in such statements, the common or usual name of the spice may be used.

(3) Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the words and statements specified in this paragraph shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

§ 17.2 **Enriched bread and enriched rolls or enriched buns; identity; label statement of optional ingredients.** (a) Each of the foods enriched bread, enriched rolls, enriched buns conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for bread by § 17.1 (a) and (c), except that:

(1) Each such food contains in each pound not less than 1.1 milligrams and not more than 1.8 milligrams of thiamine, not less than 0.7 milligram and not more than 1.6 milligrams of riboflavin, not less than 10.0 milligrams and not more than 15.0 milligrams of niacin or niacinamide, and not less than 8.0 milligrams and not more than 12.5 milligrams of iron (Fe).

(2) Each such food may also contain as an optional ingredient added vitamin D in such quantity that each pound of the finished food contains not less than 150 U.S.P. units and not more than 750 U.S.P. units of vitamin D.

(3) Each such food may also contain as an optional ingredient added harmless calcium salts in such quantity that each pound of the finished food contains not less than 300 milligrams and not more than 800 milligrams of calcium (Ca).

(4) Each such food may also contain as an optional ingredient wheat germ or partly defatted wheat germ; but the total quantity thereof, including any wheat germ or partly defatted wheat germ in any enriched flour used, is not more than 5% of the flour ingredient.

(5) Enriched flour may be used, in whole or in part, instead of flour.

(6) The limitation prescribed by § 17.1 (a) (2) on the quantity and composition of milk and dairy ingredients does not apply.

As used in this section, the term "flour," unqualified, includes bromated flour and phosphated flour; the term "enriched flour" includes enriched bromated flour. The prescribed quantity of any substance referred to in subparagraphs (1), (2), and (3) of this paragraph may be supplied, or partly supplied, through the use of enriched flour; through the direct addition of such substance under the conditions permitted by § 15.10 of this chapter for supplying such substances in the preparation of enriched flour; through the use of any ingredient containing such substance, which ingredient is required or permitted by § 17.1 (a) within the limits, if any, prescribed by such section, as modified by subparagraph (6) of this paragraph; through the use of wheat germ; or through any two or more of such methods.

(b) Enriched bread is baked in units each of which weighs ½ lb. or more after cooling. Enriched rolls or enriched buns are baked in units each of which weighs less than ½ lb. after cooling.

§ 17.3 **Milk bread and milk rolls or milk buns; identity; label statement of optional ingredients.** (a) Each of the foods milk bread, milk rolls, milk buns conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for bread and rolls or buns by § 17.1 (a) and (c), except that:

(1) Milk is used as the sole moistening ingredient in preparing the dough; or in lieu of milk one or more of the dairy ingredients prescribed in paragraph (c) of this section is used, with or without water, in a quantity containing not less than 8.2 parts by weight of milk solids for each 100 parts by weight of flour

DISTINCTIVE FLAVOR *for your bread*

Backed by our reputation for milling these outstanding flours for flavor and quality

SUPER	Protein	Ash
Super Sapphire	12.50	.40
Super Judith	12.70	.42
Isis Clear	15.50	.72
REGULAR		
Regular Sapphire	12.00	.40
Regular Judith	12.25	.42
King Grizzly Clear	14.40	.72

MELLOW	Protein	Ash
Mellow Sapphire	11.40	.40
Mellow Judith	11.70	.43
DAKOTANA		
Dakotana	15.00	.45
WHOLE WHEAT		
Sapphire Whole Wheat	15.00	1.50

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TOP OF THE WORLD FLAVOR

These all-Montana wheat flours will give unusual absorption and outstanding flavor characteristics because they are milled exclusively from Montana hard wheats.

GENERAL OFFICES: Great Falls, Montana

Write, wire, or phone our nearest representative or contact us directly.

MONTANA FLOUR MILLS COMPANY

used (including any bromated flour or phosphated flour used).

(2) No ingredient permitted by § 17.1 (a) (3) is used.

(b) Milk bread is baked in units each of which weighs ½ lb. or more after cooling. Milk rolls or milk buns are baked in units each of which weighs less than ½ lb. after cooling.

(c) The dairy ingredients referred to in paragraph (a) (1) of this section are concentrated milk, evaporated milk, sweetened condensed milk, dried milk, and a mixture of butter or cream or both with skim milk, concentrated skim milk, evaporated skim milk, sweetened condensed skim milk, sweetened condensed partly skimmed milk, nonfat dry milk solids, or any two or more of these, in such proportion that the weight of nonfat milk solids in such mixture is not more than 2.3 times and not less than 1.2 times the weight of the milk fat therein.

§ 17.4 **Raisin bread and raisin rolls or raisin buns; identity; label statement of optional ingredients.** (a) Each of the foods raisin bread, raisin rolls, raisin buns conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for bread and rolls or buns by § 17.1 (a) and (c), except that:

(1) Not less than 50 parts by weight of seeded or seedless raisins are used for each 100 parts by weight of flour used (including any bromated flour or phosphated flour used).

(2) Water extract of raisins may be used, but not to replace raisins.

(3) The baked units may bear icing or frosting.

(4) The limitation prescribed by § 17.1 (a) (2) on the quantity and composition of dairy ingredients does not apply.

(5) In determining its total solids, instead of following the direction "Grind sample just to pass 20-mesh sieve" (Official Methods of Analysis of the Association of Official Agricultural Chemists, Seventh Edition, 1950, page 209, section 13.70, under "Total Solids in an Entire Loaf of Bread"), comminute the sample by passing it twice through a food chopper.

(b) Raisin bread is baked in units each of which weighs ½ lb. or more after cooling. Raisin rolls or raisin buns are baked in units each of which weighs less than ½ lb. after cooling.

§ 17.5 **Whole wheat bread, graham bread, entire wheat bread, and whole wheat rolls, graham rolls, entire wheat rolls, or whole wheat buns, graham buns, entire wheat buns; identity; label statement of optional ingredients.** (a) Each of the foods whole wheat bread, graham bread, entire wheat bread, whole wheat rolls, graham rolls, entire wheat rolls, whole wheat buns, graham buns, entire wheat buns conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for bread, rolls, and buns by § 17.1 (a) and (c), except that:

(1) The dough is made with whole wheat flour, and no flour is used therein.

(2) The limitation prescribed by § 17.1 (a) (2) on the quantity and composition of dairy ingredients does not apply.

(3) The total weight of calcium propionate, sodium propionate, or mixtures of these used is not more than 0.38 part for each 100 parts by weight of the whole wheat flour used. As used in this section, the term "flour," unqualified, includes flour, enriched flour, bromated flour, enriched bromated flour, and phosphated flour; the term "whole wheat flour" includes whole wheat flour and bromated whole wheat flour. The potassium bromate in any bromated whole wheat flour used shall be deemed to be an optional ingredient in the whole wheat bread or whole wheat rolls.

(b) Whole wheat bread, graham bread, or entire wheat bread is baked in units each of which weighs ½ lb. or more after cooling. Whole wheat rolls, graham rolls, entire wheat rolls, or whole wheat buns, graham buns, entire wheat buns are baked in units each of which weighs less than ½ lb. after cooling.

Effective date. These regulations shall become effective 90 days from the date of publication of this order in the Federal Register, except that the provision of § 17.1 (a) (1) insofar as it permits the use of mono- and diglycerides of fat-forming fatty acids, including diacetyl tartaric acid esters of mono- and diglycerides of fat-forming fatty acids, is tentative and the record will remain open on this point to permit the introduction of new evidence on a date to be announced to show the effects of such articles as surface-active agents, and to show the results of the completed chronic toxicity experiments with diacetyl tartaric acid esters of mono- and diglycerides of fat-forming fatty acids.

Dated: May 12, 1952.

(Seal) OSCAR R. EWING,
Administrator.

(F. R. Doc. 52-5369; Filed May 14, 1952; 8:48 a.m.)

Certificate Final Terms

In grain sales transactions the expression "certificate final" means that the grain has been sold on the basis of grade and that the certificate of grade which accompanies the shipping document establishes the fact of its grade. Such transactions are final in that if the grade on the certificate is in accordance with the grade specified in the contract the buyer must accept the grain delivered without any recourse to arbitration for real or fancied grievances as to its commercial or industrial quality.

Canadian Wheat Flour Exports

Note: By crop years ending July 31, in barrels. Source: Dominion Bureau of Statistics.

	1953-54	1952-53	1951-52
U. K.	3,606,777	4,754,253	3,947,918
Aden	.....	972	12,757
Bermuda	26,189	24,628	26,054
Br. E. Africa	.....	.....	128
Br. Guiana	218,271	210,871	188,380
Br. Honduras	12,465	12,026	11,337
Br. Malaya	81,989	93,241	34,220
Br. W. Africa	1,428	.....	.....
Br. W. Indies	1,270,310	1,045,089	1,196,565
Ceylon	53,962	324,991	201,702
Gambia	4,401	657	816
Gibraltar	30,094	33,754	43,576
Gold Coast	200,260	30,320	25,077
Hong Kong	231,931	274,411	267,571
India	17	54	20
Nigeria	118,786	26,981	23,360
Sierra Leone	25,856	11,780	9,497
Total British Empire	5,882,736	6,844,028	5,988,978
Arabia	22,021	34,441	30,982
Argentina	.....	1	.....
Belgian Congo	156,799	57,224	94,557
Bolivia	3,917	9,285	510
Brazil	320	81,710	.....
Colombia	171,661	90,140	56,020
Costa Rica	101,184	85,613	102,860
Cuba	200,823	23,020	473,781
Denmark	301	150	255
Dom. Republic	115,522	26,951	55,786
Ecuador	9,436	22,683	12,891
Egypt	1,415	1,439,949	251,276
Formosa (Taiwan)	.....	1,555	.....
France	3,367	.....	1,173
Fr. Africa	1,743	3,241	2,647
Fr. Oceania	2,812	5,624	7,220
Fr. W. Indies	1,608	1,614	1,381
St. Pierre & Miquelon	4,302	4,265	4,426
Germany	139,545	51,778	52,779
Greece	.....	11,627	12,601
Greenland-Iceland	38,390	14,090	27,006
Guam	768	.....	.....
Guatemala	97,470	62,743	69,695
Haiti	135,549	52,536	106,329
Honduras	4,867	663	1,275
Indonesia	16,009	20,052	177,525
Iraq	.....	.....	114
Israel	680	2,766	151,234
Italy	39,216	16,754	678,310
Japan	228,684	225,721	98,120
Korea	234,283	322,202	2,041
Lebanon	28,151	757,922	223,042
Liberia	1,693	2,018	1,770
Mexico	244	51	.....
Morocco	65,487	129,116	97,489
Netherlands	3,878	.....	.....
Neth. Antilles	56,144	37,655	.....
Neth. W. Indies	.....	.....	42,174
Nicaragua	66,783	40,641	39,725
Norway	.....	.....	1,350
Panama	79,013	70,430	47,201
Peru	9,138	14,513	.....
Portugal	12,805	12,424	6,185
Azores & Madeira	13,071	7,701	6,183
Port. Africa	11,586	3,624	37,308
Port. Asia	4,537	18,510	19,120
Salvador	65,717	54,646	59,506
Siam	.....	.....	40,782
Span. Africa	3,144	1,684	.....
Canary Island	204	.....	10,291
Surinam	43,348	37,317	21,926
Switzerland	40	.....	.....
Syria	30	11	128,839
Thailand	68,890	62,086	.....
Tripoli	.....	.....	35,710
U.S.	62,537	50,893	65,546
Alaska	2	3	25
Hawaii	.....	26	1,479
Am. Virgin Is.	2,617	2,768	2,797
Phil. Islands	1,145,156	1,186,934	1,083,821
Venezuela	929,758	624,395	720,553
Yugoslavia	4,160	12,063	7,701
Grand total	10,291,561	12,639,857	11,293,805

USE OF BREAD

Bread making or the preparation of loaves and cakes from flour or parched grain is one of the most ancient arts. At Wangen and also Robenhausen have been found the calcined remains of cakes made from coarsely ground grain in Swiss lake-dwellings that date back to the Stone Age. The cakes were made of different kinds of grain.

FOR WANT-AD RESULTS:
The Northwestern Miller

Commercial Wheat Milling Production, by Months: 1953

(From the Bureau of the Census)

Month—	Wheat flour production (thousand sacks) Average per working day*	Calendar month total	Wheat grindings (thousand bushels)	Offal production (thousand tons)	Av. pounds per sack of flour Wheat	Offal	Flour extraction rate (percent)†
January	943	19,809	46,033	398	139.4	40.1	71.7
February	853	17,068	39,501	337	138.9	39.4	72.0
March	845	18,592	42,968	366	138.7	39.2	72.1
April	790	17,377	40,168	343	138.7	39.4	72.1
May	844	17,721	40,969	348	138.7	39.2	72.1
June	821	18,064	41,833	357	138.9	39.5	72.0
July	815	18,747	43,410	372	138.9	39.6	72.0
August	867	18,204	42,263	365	139.3	40.1	71.8
September	927	19,469	45,393	394	139.9	40.4	71.5
October	945	20,799	48,501	424	139.9	40.7	71.5
November	899	17,972	41,836	363	139.7	40.3	71.6
December	834	18,355	42,571	366	139.2	39.8	71.8
Total	865	222,177	515,446	4,432	139.2	39.9	71.8

*The number of working days per month is computed on the basis of a 5-day week with allowances for the following holidays: Jan. 1, May 30, July 4, Labor Day, Thanksgiving Day, and Dec. 25.

†Wheat flour production as compared with amount of wheat ground.

U.S. Average Retail Price of White Bread

Note: In leading cities per pound (baked weight) of white bread, in cents. Source: U.S. Department of Labor.

Year—	Jan.	Feb.	Mch.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av'ge
1954	17.0	17.0	17.0	17.0	17.0	17.0	17.1	17.4	17.4	17.4	17.5	17.6	17.2
1953	16.2	16.1	16.2	16.2	16.3	16.3	16.3	16.4	16.7	16.8	16.8	16.9	16.4
1952	15.7	15.8	15.8	15.8	16.2	16.1	16.2	16.2	16.2	16.2	16.2	16.2	16.0
1951	15.6	15.7	15.6	15.6	15.6	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
1950	14.0	14.0	14.0	14.0	14.0	14.0	14.2	14.6	14.6	14.7	14.7	14.7	14.3
1949	13.9	13.9	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
1948	13.8	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9
1947	11.6	11.7	12.1	12.5	12.4	12.5	12.5	12.5	12.6	12.7	13.4	13.6	12.5
1946	8.8	8.9	8.9	9.3	9.5	10.6	10.7	11.6	11.6	11.6	11.5	11.5	10.4
1945	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
1944	8.9	8.8	8.8	8.7	8.7	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
1943	8.8	8.8	8.8	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9
1942	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
1941	7.8	7.8	7.8	7.8	7.8	7.9	7.9	8.3	8.5	8.7	8.6	8.6	8.1
1940	8.0	8.1	8.1	8.2	8.2	8.1	8.1	8.1	8.1	7.8	7.8	7.8	8.0
1939	8.0	8.0	7.9	7.9	7.9	7.9	7.9	7.8	7.8	7.8	7.8	7.8	7.9
1938	8.8	8.8	8.8	8.8	8.8	8.8	8.7	8.6	8.3	8.2	8.1	8.1	8.6

BAKING SCHOOLS

American Institute of Baking, 400 E. Ontario St., Chicago 11, Ill. Tuition: $450. Regular Course: 20 weeks. For further information write: Registrar, American Institute of Baking, 400 E. Ontario St., Chicago 11, Ill.

Arlington State College, Arlington, Texas. Tuition: residents $192, and non-residents $392. Regular Course: 2 years. For further information write: Roy W. Burdett, head of industrial training, Arlington State College, Arlington, Texas.

Boston Trade High School, 690 Washington St., Dorchester 24, Mass. Tuition: none, for Massachusetts residents. Regular Course: 3 or 4 years, during high school age. For further information write: Maurice J. Downey, master in charge, 690 Washington St., Dorchester 24, Mass.

City College of San Francisco, Ocean and Phelan Aves., Balboa Park, San Francisco 12, Cal. Tuition: none. Regular Course: 32 weeks. For further information write: Hotel & Restaurant Dept., City College of San Francisco, Ocean & Phelan Aves., Balboa Park, San Francisco, Cal.

Culinary School of New York, 135 E. 58th St., New York City, N.Y. Tuition: ——, Regular Course: ——. For further information write: The Culinary School of New York, 135 E. 58th St., New York City.

Dobbins Vocational, 22nd and Lehigh Ave., Philadelphia 32, Pa. Tuition: none, except for veterans under the GI bill. Regular Course: 40 weeks a year for 3 years. For further information write: L. J. Lipp, coordinator, Dobbins Vocational Technical School, 22nd and Lehigh Ave., Philadelphia 32, Pa.

Duluth Vocational, 1608 London Road, Duluth, Minn. Tuition: $10 a week. Regular Course: 2 years. For further information write: Duluth Area Vocational Technical School, 1608 London Road, Duluth, Minn.

Dunwoody Baking School, 818 Wayzata Blvd., Minneapolis, Minn. Tuition: residents, $25 a month, and non-residents, $44 a month, plus $15 registration fee. Regular Course: bread and rolls, 16 weeks, and cakes and pastry, 16 weeks. For further information write: William Hood Dunwoody Industrial Institute, 818 Wayzata Blvd., Minneapolis, Minn.

Edison Technical, Broadway and East Pine St., Seattle 22, Wash. Tuition: none. Regular Course: 2 years. For further information write: Enrollment & Counselling Office, Edison Technical School, Broadway & East Pine St., Seattle 22, Wash.

Emerson Vocational, Buffalo 2, New York. Tuition: none for local students. Regular Course: 4 years. For further information write: Buffalo Board of Education, City Hall, Buffalo 2, N. Y.

Florida State University, Tallahassee, Fla. Tuition: residents $150, and non-residents $500. Regular Course: 4 years, with B.S. degree. For further information write: Dr. Rumsey or the Registrar, Florida State University, Tallahassee, Fla.

Food Trades Vocational, 208 W. 13th St., New York City. Tuition: none. Regular Course: 3 years. For further information write: Jacob Simonson, principal, Food Trades Vocational High School, 208 W. 13th St., New York City, N. Y.

E. C. Goodwin Technical School, New Britain, Conn. Tuition: none, for Connecticut residents. Regular Course: 3 years. For further information write: Robin Vredenburgh, personnel director, E. C. Goodwin Technical School, New Britain, Conn.

J. C. Laney, unit of Oakland Public Schools, 240 E. 10th St., Oakland 6, Cal. Tuition: $2 a semester. Regular course: 1,800 hours. For further information write: Paul D. Thomas, principal, or Thomas W. Cole, vice principal, Laney Trade & Technical Institute, 240 E. 10th St., Oakland 6, Cal.

Lindsey Hopkins, unit of Dade County Public School System, 1410 N. E. 2nd Ave., Miami, Fla. Tuition: $2. Regular Course: 3 years, during high school age. For further information write: Registrar, Lindsey Hopkins Vocational School, 1410 N.E. 2nd Ave., Miami, Fla.

Los Angeles Trade-Technical, 1646 S. Olive St., Los Angeles 15, Cal. Tuition: none. Regular Course: 10 months to 2 years. For further information write: Frank J. Lobeda, instructor, Commercial Baking, Los Angeles Trade-Technical Junior College, 1646 S. Olive St., Los Angeles 15, Cal.

Milwaukee Vocational, 1015 N. 6th St., Milwaukee, Wis. Tuition: residents $1.50, and non-residents $1.50 plus $1.50 a day payable one quarter in advance. Regular Course: 72 weeks. For further information write. Miss Isabel Scholl, Milwaukee Vocational and Adult Schools, 1015 N. 6th St., Milwaukee, Wis.

National Baking School, 835 Diversey Pkwy., Chicago 14, Ill. Tuition: $78. Regular Course: 60 lessons in home study. For further information write: National Baking School, 835 Diversey Pkwy., Chicago 14, Ill.

Oklahoma A & M, Okmulgee, Okla. Tuition: residents $235, and non-residents $551. Regular Course: 48 weeks. For further information write: Jno. C. Summers, manager, baking department, Oklahoma A & M College, Okmulgee, Okla.

Pittsburgh Vocational, So. 10th & Sarah Sts., Pittsburgh 3, Pa. Tuition: residents, none; non-Pittsburgh residents, variable. Regular Course: 4 years, during high school age. For further information write: James E. Shannon, principal, South Vocational High School, S. 10th & Sarah Sts., Pittsburgh 3, Pa.

San Diego Vocational, 835 12th Ave., San Diego 2, Cal. Tuition: $11 for laboratory and health examination fees. Regular Course: 2 years. For further information write: San Diego Vocational School, 835 12th Ave., San Diego 2, Cal.

Siebel Institute, 4043 Peterson Ave., Chicago 30, Ill. Tuition: $187.50. Regular Course: 50 lessons by correspondence. For further information write: Michael J. Reiser, registrar, Siebel Institute of Technology, 4043 Peterson Ave., Chicago 30, Ill.

Spokane Trade School, 714 W. 4th St., Spokane, Wash. Tuition: $7.50 a year. Regular Course: ——. For further information write: Martin Mikoski, instructor in charge, Spokane Trade School, 714 W. 4th St., Spokane, Wash.

ROANOKE CITY MILLS INC.

ROANOKE, VIRGINIA

"Finest in the South"

Capacity, 3,600 cwts.

Strong, Bakers' Patents

SPRING PILOT
KANSOTA
KANSAS PILOT

Special Cake Flours

RINGOAL
LIGHT WHITE

U.S. Retail Flour Prices

Note: Average price in leading cities in cents per 5 lb. Source: U.S. Department of Labor.

	1948	1949	1950	1951	1952	1953	1954
Jan.	54.4	48.3	48.3	50.7	52.7	52.3	53.3
Feb.	50.9	48.1	48.4	51.4	52.7	52.3	53.5
March	49.7	48.1	48.5	51.9	52.6	52.2	53.6
April	49.0	48.0	48.8	52.1	52.5	52.3	53.8
May	48.9	48.1	49.0	52.2	52.5	52.4	53.7
June	48.7	47.7	49.1	52.2	52.5	52.4	53.6
July	48.2	47.4	49.2	52.1	52.3	52.1	53.5
Aug.	47.9	47.4	49.7	51.9	52.1	52.0	53.4
Sept.	47.8	47.5	49.7	52.0	51.9	52.0	53.4
Oct.	47.6	47.7	49.6	52.1	52.0	52.1	53.6
Nov.	47.5	48.1	49.5	52.2	51.9	52.5	53.8
Dec.	47.9	48.1	49.7	52.4	52.1	52.8	54.0
Aver.	49.0	47.9	49.1	51.9	52.3	52.3	53.6

INDUSTRY FILMS

FILMS BAKING INDUSTRY

ALONG MAIN STREET—Filmstrip, **Coca Cola Bottling Co., Atlanta, Ga.**; 30 min., sound, loan. Dramatizes the sales value and appeal of human factors in any selling situation.

AMERICA'S BIGGEST BUSINESS—Filmstrip, **Standard Brands, Inc., 595 Madison Ave., New York 22, N.Y.**; 25 min., sound with record, black and white, 35 mm., loan. Designed for showings to high school, trade school and college audiences, also suitable for personnel of individual bakeries. Part I tells of industry itself, what it is and how it operates. Part II describes opportunities it offers in office, sales or shops, together with description of educational background desired of young men and women who choose this profession as a career.

ARRANGING THE BUFFET SUPPER—Motion picture, **Instrumental Films, Inc., Wilmette, Ill.**; 5 min., color or black and white, 16 mm., rent, purchase. Useful instruction in the problems of giving a buffet supper for high school and college level.

ARRANGING THE TEA TABLE—Motion picture, **Instrumental Films, Inc., Wilmette, Ill.**; 5 min., color or black and white, 16 mm., rent, purchase. Illustrates, step by step, with explanatory narration the reasons behind attractive and correct tea table arranging. For high school and college level.

AVENUES OF OPPORTUNITY — Filmstrip, **Standard Brands, Inc., 595 Madison Ave., New York 22, N.Y.**; 22 min., sound, color, loan. Developed as sales training aid for bakers to improve the selling techniques of bakeshop sales girls. Gives practical examples of suggestive selling techniques.

BAD MASTER—Motion picture, **American Society of Bakery Engineers, C. G. Harrel, Director, Dept. of Visual Education, 268 Third Ave. S.E., Minneapolis, Minn.**; 15 min., silent, 16 mm., loan. This film is designed to show how fires start in the home and some of the common sense things to do to prevent fires.

BAKER—Filmstrip, **Society for Visual Education, Inc., 1345 W. Diversey Blvd., Chicago, Ill.**; 38 frames, silent with text, black and white, purchase. Develops appreciation for the "unsung" services of persons who give daily to the community, calling attention to the dependence of communities on certain workers.

BAKER'S WIFE—Motion picture, **French Films and Folklore, 431 Riverside Drive, New York 25, N.Y.**; 35 min., sound, black and white, 16 mm., rent. Produced by Brandon Films in 1938. Contains French dialogue with English titles. Written, directed and produced by Marcel Pagnol. Stars Raimu, Charpin and Jeanette Leclerc.

BAKERY — Filmstrip, **Curriculum Films, 10 E. 40th St., New York 16, N.Y.**; 25 frames, silent with text, color, purchase. One of 12 filmstrips of the City Community series on food, clothing, shelter, transportation, work and play in the city for both rural and urban use in primary community study.

BAKING BREAD—Filmstrip, **Nestor Productions, Inc., 7904 Santa Monica Blvd., Los Angeles 46, Calif.**; 32 frames, silent with text, purchase. Produced 1949 for school use.

BAKING INDUSTRY — Motion picture, **Carl F. Mahnke Productions, 215 E. 3rd St., Des Moines 9, Iowa**; 15 min., silent, black and white, 16 mm., rent, purchase. Shows various jobs in the baking industry. Produced by Vocational Guidance Films, Inc.

BASIC SANITATION — Motion picture, **U.S. Public Health Service, Washington 25, D.C.**; 9 min., color. Community fly control series (CDC-4-090). Procedures in urban and rural basic sanitation programs for the elimination of all fly breeding sources.

BATTLE FOR BREAD—Motion picture, **Association Films, Inc., 79 E. Adams St., Chicago 3, Ill.**; 17 min., 16 mm., rent, purchase. Scenes from all over the world show farmers and fishermen at work. While food supplies suffered from war damage and neglect, food needs increased due to normal population growth and declining death rates. The need for worldwide cooperation on food problems gave rise to the FAO. Depicts conditions prevailing in 1948. Produced by United Nations Food and Agriculture Organization.

BETTER BAKING FOR A BETTER AMERICA—Motion picture, **National Biscuit Company, 100 N.E. Columbus Blvd., Portland 11, Ore.**; 10 min., sound, color, 16 mm., loan. Illustrates the baking of biscuits and crackers in a modern factory.

BIG HARVEST—Motion picture, **Instructional Films, Inc., Wilmette, Ill.**; 18 min., 16 mm., rent, purchase. Shows what our people have done to the soil which they inherited. It expresses in very full and stimulating terms the basic service which agriculture has played and must continue to play in the support of all economy and of the kind of life which we lead and of the strength of our nation.

BREAD—Filmstrip, **Curriculum Films, 10 E. 40th St., New York 16, N.Y.**; 23 frames, silent with captions, color, purchase. One of a series of four films on community study showing how city workers help us, including Bakers. Uncle Walt takes Ann to the bakery where the Baker explains the story of Bread, starting with the wheat farms and continuing through to the final process in the Bakery.

BREAD — Motion picture, **Encyclopaedia Britannica Films, Inc., Wilmette, Ill.**; 11 min., sound, black and white, 16 mm., rent, purchase. Produced 1945. Educational consultant: D. E. Proctor, Massachusetts Institute of Technology. Story of Bread from the wheat farm to the table. Sequences portray the use of flour in the home, the harvesting of wheat, flour milling; and the making of bread in the modern bakery. Elementary, high school.

BREAD — Motion picture, **Encyclopaedia Britannica Films, Inc., Wilmette, Ill.**; 10 min., sound, black and white, 16 mm., rent, purchase. Presents the story of bread from grain to finished loaf. Shows also cooling, slicing and wrapping of bread. Produced 1946.

BREAD — Motion picture, **Encyclopaedia Britannica Films, Inc., Wilmette, Ill.**; 25 min., sound, black and white, 16 mm., rent, purchase. Relates the complete story of bread, showing first how wheat is cut, threshed, and ground into flour. At a large bakery, we watch flour being mixed with other ingredients to form dough; yeast causing the dough to rise; and a machine dividing the dough into loaves. We see finally how great ovens bake the loaves, and how the bread is sliced and wrapped for delivery. Good for grade school children.

BREAD — Filmstrip, **Society for Visual Education, Inc., 1345 Diversey Pkwy., Chicago, Ill.**; 50 frames, silent with text, black and white, purchase. Shows the importance of Bread, buying and storing, many recipes in which it is used. Teaches relative value of Bread, vegetables and fruits in the diet, economical buying, demonstrates proper storage of food, creates an interest in new ways of serving food, offers suggestions and authentic information on attractive table settings.

ENZYMES—Motion picture. **American Society of Bakery Engineers, C. G. Harrel, Director, Dept. of Visual Education, 208 Third Ave. S.E., Minneapolis, Minn.**; 45 min., silent, black and white, 16 mm., loan. Portrays actions of enzymes with particular reference to the part they play in the production of Bread during fermentation processes.

FOOD AS CHILDREN SEE IT—Motion picture, **General Mills, Inc., Minneapolis, Minn.**; 17 min., sound, color, 16 mm., loan. Presents food from children's viewpoint. PTA groups, school teachers and to mothers. Covers all basic foods with extra emphasis on Bread.

FOOD OF THE WORLD—Motion picture, **Bakers of America Program, 20 N. Wacker Dr., Chicago 6, Ill.**; 20 min., color, sound, 16 mm. Presents Bread of many lands, followed by an excellent portrayal of American (Wholesale) Bread making methods from farm to Bread rack. Available for showing in all sections except portions of some Eastern states.

400 YEARS IN FOUR MINUTES—Motion picture, **General Mills, Inc., 400 Second Ave. S., Minneapolis 1, Minn.**; 23 min., sound, color, 16 mm., loan. Cake making produced in 1945, available upon request, or a 35 mm. filmstrip which reviews the highlights of the film, teachers' guide books, recipe booklets and question sheets for class or audience.

FREEZE IT — Motion picture, **Instructional Films, Inc., Wilmette, Ill.**; 18 min., color, 16 mm., rent, purchase. Skillfully points up techniques for preparing and packaging foods, vegetables, meats, soups, pies and cakes for storage in the home freezer. Illustrates recommended methods for cooking foods taken from the freezer, and shows that wise use of the freezer makes possible the preparation of a complete meal with a minimum of time and effort.

FROM WHEAT TO BREAD—Motion picture, **Encyclopaedia Britannica Films, Inc., Wilmette, Ill.**; 1 reel, silent, 16 mm., rent, purchase. Depicts primitive methods of making bread, a pioneer grist mill, modern flour mill, modern bakery, present-day direct-to-consumer delivery.

FROZEN CHERRIES — Motion picture, **Standard Brands, Inc., 595 Madison Ave., New York 22, N.Y.**; 14 min., sound, color, 16 mm., loan. Story of "Frozen Cherries" from the orchard to preparation and use in bakery products.

GIVE US THIS DAY—THE STORY OF BREAD—Motion picture, **American Society of Bakery Engineers, C. G. Harrel, Director, Dept. of Visual Education, 208 Third Ave. S.E., Minneapolis, Minn.**; 25 min., sound, black and white, 16 mm., loan. By Anheuser-Busch, Inc. History, development, making, scientific control, food value, drama and romance of Bread. Includes story of the new enriched Bread made with added vitamins and minerals natural to whole wheat.

GOLDEN GLORY—Motion picture, **Standard Brands, Inc., 595 Madison Ave., New York 22, N.Y.**; 30 min., sound, 16 mm., loan. Tells the inspiring story of a pioneer scientist who was mainly responsible for America's abundance of wheat. Promotes public acceptance of Bread and bakery products as basic foods. The story is that of Peter who comes to visit his grandparents on a wheat farm. He learns from his grandfather the importance of wheat and how the best varieties for America were developed from Russian and Turkish seed. Peter's Uncle Ned, a major in the Quartermaster Corps, visits the family and teaches Peter more about wheat and other foods. Finally the grandmother attends a nutrition meeting in town, learns about the basics of it and discusses them with her family.

HOLIDAY HAPPINESS—Motion picture, **Standard Brands, Inc., 595 Madison Ave., New York 22, N.Y.**; 30 min., sound, color, 16 mm., loan. Covers every phase of cake decorating and icing for special occasions. Also shows how jelly transfers may be

High altitude spring wheat . . . plus four generations of milling experience . . . plus a modern mill . . . result in TRISCO flour . . . for bakers who want a mellow-type flour of superior quality.

TRI-STATE MILLING CO.

Rapid City, South Dakota

used for quick, inexpensive, fancy designs, suitable for consumer groups, bakery trade schools and bakery trade, only in those locations where the Fleischmann's School for Bakers has been conducted.

HOUSE THAT FAITH BUILT — Motion picture, **Anheuser-Busch, Inc., St. Louis, Mo.;** 40 min., sound, black and white, 16 mm.; loan. History and products of Anheuser-Busch told in authentic historical sequences that merge into a powerful human interest story, produced by Wilding Picture Productions, Inc.

HUMAN ELEMENT IN PIE CRUST MAKING—Motion picture, **American Society of Bakery Engineers, C. G. Harrel, Director, Dept. of Visual Education, 208 Third Ave., S.E., Minneapolis, Minn.;** 20 min., silent, black and white, 16 mm., loan. Shows the method of making three different types of Pie Crust from one dough by means of different handling. Shows correct and incorrect procedure from the weighing of the ingredients to the finished pies. Non-technical film.

IN THE DOUGH—Motion picture, **American Society of Bakery Engineers, C. G. Harrel, Director, Dept. of Visual Education, 208 Third Ave., S.E., Minneapolis, Minn.;** 30 min., silent, 16 mm., loan. Brief historical background of Baking and portrays influence of various ingredients contained in Bread formulas, illustrating their effort upon quality products. Also touches upon various external factors which influence Bread in its production and clearly illustrates the importance of the enzyme diastase in furnishing available sugar supplies from starch.

INSIDE STORY OF CAKE BAKING—Motion picture, **Swift & Co., Refinery Dept., Union Stock Yards, Chicago 9, Ill.;** 30 min., sound, color, 16 mm., loan. Can see inside of a cake while it bakes due to development of a new process called micro-baking which is combined with micro-photography and what happens to the structure and texture of a cake while it bakes—why certain ingredients combine to give superb results.

JUNGLE BREAD — Motion picture, **Van de Kamp's Bakeries, Public Relations Dept., 2930 Fletcher Ave., Los Angeles 26, Cal.;** 20 min., sound, color, 16 mm., loan. A photographic expedition, sent by Van de Kamp's Bakeries, to Dutch Guiana in South America, specially to film and verify the story of how primitive bush negroes, dgukas, make jungle bread, by transforming the deadly poisonous root of the Cassava Plant into an edible food.

KING WHO CAME TO BREAKFAST—Motion picture, **Association Films, Inc., 79 E. Adams St., Chicago, Ill.;** 17 min., sound, color, 16 mm., loan. Story of wheat told with marionettes—a humorous fantasy about wheat. The "King of Grain" shows how, for thousands of years, man hunted for his food, for wild beasts, birds and animals, but the swift birds and animals eluded him. Seeds were not easy to find and man often had little or no food. One day some 15,000 years ago man sat down to eat his meal, a few seeds fell to the fertile ground. He later found to his amazement, that the seeds sprouted and grew up as stocks of wheat. He discovered he could remain in one place and not go hungry. Wherever wheat could grow, man could stay. And so, man and his wheat went and founded great civilizations.

LAND OF EVERYDAY MIRACLES—Motion picture, **Warner Bros., Hollywood, Cal.;** 17 min., sound, color, 35 mm.* Presents a patriotic pageant of past and present miracles that made America great, including the miracle that helps protect Americans from the ravages of hidden hunger, the enrichment of our daily bread; 16 mm. version available from **Standard Brands, Inc., 595 Madison Ave., New York 22, N.Y.**

*For theatre presentation.

LET'S MAKE A CAKE—Motion picture, **Encyclopaedia Britannica Films, Inc., Wilmette, Ill.;** 5 min., sound, color or black and white, 16 mm., purchase. Sold only as part of a set. Demonstrates a simple, efficient way of making a birthday cake.

LET'S MAKE A PIE—Motion picture, **Encyclopaedia Britannica Films, Inc., Wilmette, Ill.;** 5 min., sound, black and white or color, 16 mm., purchase. Part of a set sold only as such. Shows Sally Gasser working in the well equipped kitchen of her family's home.

LOAF OF BREAD—Motion picture, **Baily Films, Inc., 2044 N. Berendo St., Hollywood 27, Cal.;** 1 reel, silent, 16 mm. Raising of wheat, making of flour, baking bread.

LOAF OF BREAD—Motion picture, **Australian News & Information Bureau, 636 Fifth Ave., New York 20, N.Y.;** 10 min., sound, black and white, 16 mm., rent, purchase. Deals with the processes involved in making a loaf of bread, from wheat-field to the bakery.

MAKING BREAD IN THE 13TH CENTURY—Motion picture, **National Film Board of Canada, 1270 Avenue of the Americas, New York, N.Y.;** 5 min., sound, black and white, 16 mm., rent, purchase. Quaint puppet figures depict the peasants and the feudal lords of England in the 13th Century. With musical background incorporating traditional airs, the film tells the story of the sowing, reaping, and milling of wheat in medieval Britain, its making into bread and serving to the lord of the manor. Senior High, College and Adult film.

MARK OF C.—Motion picture, **Anheuser-Busch, Inc., St. Louis 18, Mo.;** 30 min., sound, color, 16 mm., loan. An inspiring story of Christopher Ludwick and American Bread. Shows some of the incidents in the early days of our nation, and how Christopher Ludwick, Baker General of the Army under George Washington, carved a definite place for himself in history as a patriot and a baker. Then, as now, Bread was a basic American food, eaten 3 times a day—and the picture shows how bakers of America have carried on through the years, the spirit of Christopher Ludwick—how, by constant research and improvements they have made American Bread the best bread in the world!

MARKET FOR SWEET BAKED PRODUCTS (SURVEY)—Filmstrip, **Standard Brands, Inc., 595 Madison Ave., New York 22, N.Y.;** 25 min., sound with record, part color, 35 mm., loan. Summarizes nationwide survey on housewife preference for sweet baked goods and desserts. Dramatically climaxed by full-color sequence of sweet baked products being discussed.

MICROSCOPIC PLANT LIFE IN THE BAKE SHOP—Motion picture, **American Society of Bakery Engineers, C. G. Harrel, Director, Dept. of Visual Education, 208 Third Ave., S.E., Minneapolis, Minn.;** 30 min., silent, black and white, 16 mm., loan. Portrays methods of propagation of mold; how mold spreads and the factors influencing and governing its growth from the spore stage. Methods of preventing mold growth are set forth with suggestions as to how the destruction of food—particularly Bread—can be prevented.

MR. STUART ANSWERS THE QUESTION—Motion picture, **U. S. Department of Commerce, Office of Small Business, Washington 25, D.C.;** 34 min., 16 mm., loan. Produced by U.S. Department of Commerce 1947. How a small business man, Fred Stuart, owner of a small retail store, trains himself and his staff in modern selling methods.

MODEST MIRACLE — Motion picture, **Standard Brands, Inc., 595 Madison Ave., New York 22, N.Y.;** 30 min., sound, black and white, 16 mm.; loan. Geographical story of Dr. Robert R. Williams' isolation and synthesis of Vitamin B_1. The subsequent enrichment of bread with this vitamin shows the cooperation between science and industry for the benefit of all mankind.

ORNAMENTING AND DECORATING FANCY CAKES—Motion picture, **American Society of Bakery Engineers, C. G. Harrel, Director, Dept. of Visual Education, 208 Third Ave., S.E., Minneapolis, Minn.;** 20 min., silent, 16 mm., loan. Shows how fancy cakes are decorated by use of a tube and also with the partial use of ornaments previously made. About half of film is in color and for this reason special application for showing under specific conditions must be made. Non-technical film.

OUR DAILY BREAD — Motion picture, **International Harvester Co., Chicago 1, Ill.;** 11 min., sound, 16 mm., loan. Modern harvesting equipment shown, transporting grain to market; and the making of bread.

OUR DAILY BREAD — Motion picture, **The Maryknoll Bookshelf, Maryknoll, P.O., N.Y.;** 22 min., sound, 16 mm., rent, purchase. Produced by the Catholic Foreign Mission Society of America, based on the prayer "Give Us This Day Our Daily Bread" and what it means to the people of the Orient. Highlight of film is a locust invasion, one of the most spectacular scenes ever filmed.

OUR DAILY BREAD — Motion picture, **RKO Radio Pictures, Inc., 1270 Ave., of Americas, New York 20, N.Y.;** 18 min., sound, black and white, 16 mm., rent, purchase. One of the "RKO This Is America" series. Describes the romance and history of Bread. Traces production from wheat field to modern bakery.

PIE—AMERICA'S FAVORITE DESSERT—Motion picture, **American Society of Bakery Engineers, C. G. Harrel, Director, Dept. of Visual Education, 208 Third Ave., S.E., Minneapolis, Minn.;** 24 min., sound, color, 16 mm., loan. Illustrates modern method of baking pies in a progressive Bakery.

PRINCIPLES OF BAKING—Motion picture, **Encyclopaedia Britannica Films, Inc., Wilmette, Ill.;** 11 min., sound, black and white, 16 mm., rent, purchase. Instructional film covers the principles of baking involved in many doughs and batters. Narrator describes the essential ingredients and their functions.

PRINCIPLES OF REFRIGERATION—Motion picture, **Knowledge Builders, New York 22, N.Y.;** 1 reel, sound, 16 mm., rent, purchase. An excellent film study which deals with the discovery and development of refrigeration—shows the application of its principles in commercial and household uses for the preservation of food and clearly presents a concise story of the modern necessities.

PRODUCTION OF 5¢ PIES—Motion picture, **American Society of Bakery Engineers, C. G. Harrel, Director, Dept. of Visual Education, 208 Third Ave., S.E., Minneapolis, Minn.;** 15 min., silent, color, 16 mm., loan. Shows operations in a large modern, Pie Bakery turning out a large production of small pie units. Portrays the mechanics of handling the small pie units efficiently by means of modern machinery, including packaging.

PRODUCTION OF FOODS—Motion picture, **Encyclopaedia Britannica Films, Inc., Wilmette, Ill.;** 60 frames, rent, purchase. Analyzes the momentous problem of world food production. Emphasizes that production depends on the land, especially the soil and reveals that proper diet requires both cheaply produced primary foods, such as grains, and secondary foods, such as milk, milk products, and meats. Calls attention to problems of wide-spread malnutrition and suggests solutions by use of modern farming techniques and tools. For Junior and Senior High School, General Science, Geography, Social Studies, Problems of Democracy, Economics, Agriculture, Biology, Health and Hygiene and Home Economics and for adult groups.

ROLLS IN THE MAKING—Motion picture, **American Society of Bakery Engineers, C. G. Harrel, Director, Dept. of Visual Education, 208 Third Ave., S.E., Minneapolis, Minn.;** 25 min., silent, black and white, 16 mm., loan. Shows the procedure for making up a variety of shapes of rolls. Film is of particular interest to Retail Bakers and those who desire to know more about the craftsmanship of Baking. Varieties included are a few of the refrigerated types.

ROMANCE OF THE REAPER—Motion picture, **International Harvester Co., Chicago, Ill.;** 27 min., sound, 16 mm., loan. Shows invention of McCormick Reaper and development of grain harvesting machines. Explains how the development of the Reaper helped to convert the United States into the granary and bread basket of the world.

SALES WAYS — Filmstrip, **Standard Brands, Inc., 595 Madison Ave., New York, 22, N.Y.;** 25 min., sound with record, color, 35 mm., loan. Instructive exposition in cartoon style of reasons why good "Sales Ways" are as good for bakery sales girls as they are for bakery operators. Has unusually successful approach to selling bakery sales girls on better sales ways by talking from their own points of view and self interest.

SCHOOL THAT LEARNS TO EAT—Motion picture, **General Mills, Inc., 400 Second Ave. S., Minneapolis, Minn.;** 20 min., sound, color, 16 mm., loan. A General Mills, Inc. film produced jointly with the University of Georgia. Filmed in cotton mill village of East Griffin, Ga. Records actual experience in community-wide support of a nutrition program. Urges a wise selection of foods from each of the seven basic food groups every day.

SIX SLICES A DAY — Motion picture, **Canadian National Film Board, 400 W. Madison St., Chicago 6, Ill.;** 9 min., sound, 16 mm., rent. Urges new respect for cereals which fulfill the important task of releasing for export foods that take longer to produce.

SPLIT SECOND SELLING—Motion picture, **E. I. du Pont de Nemours & Co., Film Department, Wilmington 98, Del.;** 25 min., sound, 16 mm., loan. House-to-house Bakery sales film showing the right and wrong ways to display Bakery Products and approaching the customer. Film also points out successful steps in selling.

SPRINGTIME IS EGG TIME — Motion picture, **Standard Brands, Inc., 595 Madison Ave., New York 22, N.Y.;** 22 min., sound, color, 16 mm., loan. Features the "Springtime" freshness in frozen eggs. A

OTHER FILM SOURCES

Public Libraries in Principal Cities.

University, College and Extension Film Libraries.

City, County, State and Federal Government Departments.

Industry Associations, Federations and Institutions.

Commercial and Educational Film Producers and Distributors*.

*For a list of these, see **"A Directory of 2002 16 mm. Film Libraries," Bulletin 1951, No. 11, Federal Security Agency.** Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.

step-by-step tour through a modern breaking plant until the processed eggs are frozen in their containers. Concludes with a parade of bakery goods in which frozen eggs are an essentially important ingredient, and a review of the process by which Fleischmann's frozen eggs are produced.

STORY OF A LOAF OF BREAD—Motion picture, **Standard Brands, Inc., Home Office Library, New York, N.Y.; also: American Society of Bakery Engineers, C. G. Harrel, Director, Dept. of Visual Education, 208 Third Ave. S.E., Minneapolis, Minn.;** 45 min., silent, black and white, 16 mm., loan. Historical introduction in which bread of the ancients is illustrated. The production and each step in the bread making process are covered, starting with ingredients going into the loaf and ending with the process of wrapping.

STORY OF A NATIONWIDE SURVEY—(bread survey)—Filmstrip, **Standard Brands, Inc., 595 Madison Ave., New York, N.Y.;** 25 min., sound with record, black and white, 35 mm., loan. Pictorial presentation of facts and surveys brought out by nationwide survey, sponsored by makers of Fleischmann's Yeast, to find out from housewives what they are thinking and doing about Bread. Concludes by listing 5 objectives for bakery survey.

STORY OF WHEAT — Motion picture, **Knowledge Builders, New York 22, N.Y.;** 10 min., sound, black and white, 16 mm., rent, purchase. Production of wheat and its conversion into flour are described. Gives a general idea of wheat raising and flour manufacture. A few shots of commercial baking and home-baked products shown. There is no reference to whole grain or enriched flour or bread.

STREAMLINE DOUGHNUT PRODUCTION—Motion picture, **American Society of Bakery Engineers, C. G. Harrel, Director, Dept. of Visual Education, 208 Third Ave. S.E., Minneapolis, Minn.;** 15 min., silent, black and white, 16 mm., loan. Visualizes how the baker met production problems that arose from the amazing growth of doughnut sales. Practically every phase of the production activity is fully automatic.

SUPERVISING THE WORKER ON THE JOB—Motion picture, **Ideal Pictures Corp., 58 E. S. Water St., Chicago, Ill.;** 10 min., 16 mm., sound, rent. Poor supervision practices brought out, suggesting better ways.

SUPERVISING WOMEN WORKERS—Motion picture, **Ideal Pictures Corp., 58 E. S. Water St., Chicago, Ill.;** 11 min., sound, 16 mm., rent. Discussion between foreman and line supervisor regarding supervision of women as differing from supervision of men.

SUPERVISOR AS A LEADER — Motion picture, **Ideal Pictures Corp., 58 E. S. Water St., Chicago, Ill.;** rent. While machine shop scenes are from heavy industry, principles shown are directly applicable to Bakery personnel. Shows many undesirable characteristics of foremen and the desirable traits of a good foreman as appreciated by workers.

TELEPHONE TECHNIQUE—Motion picture, **Ideal Pictures Corp., 65 E. S. Water St., Chicago 5, Ill.;** 9 min., sound, black and white or color, 16 mm., rent, purchase. Telephone training for retail sales clerks. Emphasizes good telephone manners, wide knowledge of stock, importance of correct customer name and address and the necessity of an intelligent descriptive vocabulary when speaking of merchandise over the phone.

TRIANGLE OF FIRE — Motion picture, **General Mills, Inc., 400 Second Ave. S., Minneapolis, Minn.;** 16 min., sound, 16 mm., purchase. Recommended for employees of flour and cereal companies, other allied industries, and fire prevention bureaus. This new educational film is the only known picture on fire prevention in flour mills. Explains briefly the fact that a fire cannot start without proper (1) source of ignition, (2) oxygen, and (3) combustive material. Common sources of fire in flour mills are pictured, violation of the "no smoking" rules, improper disposal of oily rags and rubbish, defective electrical equipment, overheated bearings, welding, and improper handling of gasoline and other hazardous materials. A demonstration shows how flour dust under certain conditions can be highly explosive. The film does not cover fire control.

TWO SECONDS FROM CUTTING TO THRESHING—Motion picture, **International Harvester Co., Chicago 1, Ill.;** 13 min., sound, 16 mm., loan. "Slow Motion" shows in detail what happens as grain is separated and cleaned. Shows the mechanics of a combine.

UNDERSTANDING VITAMINS — Motion picture, **Encyclopaedia Britannica Films, Inc., Wilmette, Ill.;** 14 min., color, 16 mm., rent, purchase. Graphically explains what vitamins are, how they work, and why they are necessary for good health. Points out natural sources of important vitamins and reveals the effects on body tissues of a diet lacking in certain vitamins. Re-creates major events in the discovery of vitamins and calls attention to present day research. Collaborator: John D. Youmans, M.D., Vanderbilt University.

WHEAT FARMER—Motion picture, **Encyclopaedia Britannica Films, Inc., Wilmette, Ill.;** 60 frames, rent, purchase. Describes the daily life and activities of the wheat farmer and his family in a typical midwestern area. Reveals how the soil is prepared and how winter wheat is planted. Portrays other activities, such as milking cows, repairing fences and machinery, attending 4H Club meeting, hiring and feeding harvest hands, harvesting the grain and finally transporting it to the elevator for shipment. For middle grades and high school social studies, geography, agricultural, ecomonics and vocational guidance and for adult groups. Collaborator: H. P. Hartwig, Ph.D., Cornell University.

WHEAT FARMER — Filmstrip, **Encyclopaedia Britannica Films Inc., Wilmette, Ill.;** 60 frames, purchase. This filmstrip (of the series "Americans at Work") covers the principal activities engaged in by eight representative types of farmers and fishermen in producing some of our basic foods. They correlate closely with the units of study in middle grades, social studies and geography.

WHEAT: THE STAFF OF LIFE—Motion picture, **Association Films, Inc., 79 E. Adams St., Chicago 3, Ill.;** 3 reels, color and black and white, 16 mm., loan. Wheat: The Staff of Life, complete story on growing, milling, uses from germination to baking.

WHEAT USES FOR MEN AND ANIMALS—Motion picture, **Instructional Films, Inc., Wilmette, Ill.;** 11 min., color or black and white, 16 mm., rent, purchase. Shows bakery processes for bread, cake, cookies, etc. Includes making of macaroni and spaghetti, and uses of wheat as food for domestic and farm animals.

WHITE MAGIC—Motion picture, **Swift & Co., Refinery Dept., Union Stock Yards, Chicago 9, Ill.;** 30 min., black and white, 16 mm., loan. Tells of quality of ingredients used by baking industry and of advantages to the housewife of using Baker for a source of baked items.

WORKING WITH OTHER SUPERVISORS—Motion picture, **Ideal Pictures Corp., 58 E. S. Water St., Chicago, Ill.;** 8 min., sound, 16 mm., rent. Lack of cooperation on part of one supervisor shows effect on other supervisors.

YOU AND YOUR FOOD — Filmstrip, **Young America Films, Inc., 18 E. 41st St., New York 17, N.Y.;** 44 frames, purchase. One of six filmstrips in the "Good Health" series which discusses the principal food groups, and explains what each group does for the body.

YOUR BAKERY DEPARTMENT—Filmstrip, **National Assn. of Retail Grocers, 360 N. Michigan Ave., Chicago 1, Ill.;** sound, color, loan. Outlines the methods by which retail grocer can achieve maximum profits and covers his location of the bakery department, as well as proper and successful operation. Major emphasis is placed on operating a pre-packaged, self service bakery department.

FILMS—FEED INDUSTRY

THE BEATSALL DAIRY PLAN—Sound and technicolor, 20 min. Shows how to make the best use of roughage and home-grown grains in dairy feeding programs. Available to farm groups in area east of the Ohio-Indiana line. Apply to: **Kasco Mills, Inc., Waverly, N.Y. or Toledo, Ohio.**

SELECTED FILM INDEXES

The Blue Book of 16 mm. Films, the Educational Screen, Inc., 64 E. Lake St., Chicago, Ill.

Educational Film Guide, H. W. Wilson Co., 950 University Ave., New York 52, N.Y.

Filmstrip Guide, H. W. Wilson Co., 950 University Ave., New York 52, N.Y.

Index of Training Films, Business Screen Magazines, Inc., 7064 N. Sheridan, Chicago, Ill.

3,434 U.S. Government Films, Bulletin 1951, No. 21, Federal Security Agency. Superintendent of Documents, U.S. Government Printing Office, Washington 25.

The Northwestern Miller Almanack, The Miller Publishing Co., 2501 Wayzata Blvd., Minneapolis 5, Minn.

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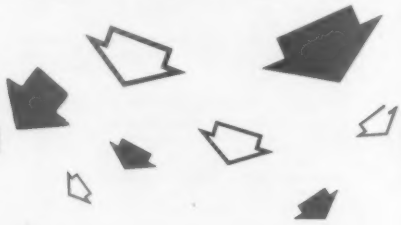

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Food Processors to the World

INDEX

Acreage (See Crops)
Activity—California Mills 22
Canadian Mills 26
Colorado Mills 22
Illinois Mills 22
Indiana Mills 22
Iowa Mills 22
Kansas City Mills 24
Kansas Mills 23
Michigan Mills 22
Minneapolis Mills 24
Missouri Mills 22
Montana Mills 22
Nebraska Mills 23
New York Mills 22
North Dakota Mills 22
Northwest Mills 22
Ohio Mills 22
Oklahoma Mills 23
Oregon Mills 22
Southwest Mills 23
Texas Mills 23
U.S. Mills 23
Utah Mills 22
Washington Mills 22
Agene—Flour Bleaching 15
Aging, Artificial 15
Alabama—Crops 90-100
Albania—Crops 90-100
Duties on Flour and Grain 54
Alberta—Crops 93
Elevators 75
Alfalfa Meal—Analysis 108
Production 103
Algeria—Crops 90-100
Duties on Flour and Grain 59
American Bakers Assn.—Presidents 123
Analysis Table—Feedstuffs 108
Animal—Population by States 118-119
Antigua—Duties on Flour and Grain 57
Argentina—Crops 90-100
Flour and Grain, Duties on 58
Ash—Content, Flour 15
Associated Retail Bakers of America—Presidents 123
Associations—Baker 134
Canadian 135
Denmark 135
Feed 133
Flour 133
Grain 133
India 135
Italy 135
Milling 133
Netherlands 135
Atchison—Flour Milling Capacity 24
Flour Mills 24
Australia—Bleaching Regulations 50
Crops 90-100
Flour and Grain, Duties on 59
Austria—Crops 90-100
Flour and Grain, Duties on 54
Bags—Flour, Regulations Prohibiting Re-Use 3
Bahamas—Flour and Grain, Duties on 57
Bakeries—U.S., Number of 121
Baking—Industrial Films 129
Baking Industry—Census Reports, U.S. 121-124
Cost of Materials, U.S. 121-124
Employees, U.S. 121
Employees' Wages, U.S. 121
Establishments, U.S., Number of 121
Expenditures, U.S. 121
Flour Consumption, U.S. 123
Products, U.S., Value of 122
Baking Schools—List of 128
Baltimore—Chamber of Commerce, Officers 80
Elevators 75
Receipts 86
Shipments 86
Barbados—Flour and Grain, Duties on 57
Barley—Carryover 118
Contract Grades 61-70
Crops 90-100
Definition, Feedingstuffs 106
Exports, Canada, Crop Years 26
Exports, U.S. 39
Exports, U.S., Lend Lease 39
Exports, U.S., UNRRA 39
Futures Trading 61-70
Imports, U.S. 39
Prices, Index Numbers of 116
Receipts and Shipments 71
Belgium—Crops 90-100
Flour and Grain, Duties on 54
Self-Rising Flour Regulations 51
Benzoyl Peroxide—Flour Bleach 15
Bermuda—Flour and Grain, Duties on 57
Bibliography — Milling, Baking, Wheat and Feed, Nutrition 42
Biscuit—Census Report 121-124
Bleached Flour—Agents for 15
Foreign Regulations 50
State Labeling Laws 5-11
Bleaching—Flour 2, 14, 50
Boards of Trade (See Grain Exchanges)
Bolivia—Flour and Grain, Duties on 58
Bond—Milling Flour in 41
Warehouses 12
Boston—Elevators 75
Receipts and Shipments 86
Bran—Definition, Feedingstuffs 107
Exports, U.S. 40
Production, U.S. 18
Brazil—Crops 90
Flour and Grain, Duties on 58
Self-Rising Flour Regulations 51
Bread—Enrichment, Standards 124
Label Regulations 124
Label Statement 124
Prices, U.S., Average 128
Regulations, State 120-123
Size, Regulations 120
Standards 124
Use of 127
West Point 60
British (See United Kingdom)
British Columbia—Elevators 75
British Guiana—Flour and Grain, Duties on 58
British Honduras—Flour and Grain, Duties on 56
British Isles (Also See Great Britain and United Kingdom) — Flour and Wheat, Imports, Crop Years 45
British Malaya—Flour and Wheat, Duties on 59
British West Africa—Package Regulations 52
British West Indies—Flour and Grain, Duties on 57
Bromated Flour—Definition and Label Standard 15
Brown-Duvel Moisture Tester 52
Buckwheat—Crops 94
Types of 81
Buckwheat Products—Definition, Feedingstuffs 106
Buffalo—Canadian Grain Receipts 28
Corn Exchange, Officers 80
Elevators 75
Flour Mills 24
Flour Prices 21
Flour Production 29, 30
Millfeed Prices 114
Receipts by Lake 86
Bulgaria—Bleaching Regulations 50
Crops 90-100
Flour and Grain, Duties on 54
Self-Rising Flour Regulations 51
Caicos Islands—Flour and Grain, Duties on 58
Calcium—Analysis for Feedstuffs 108
Enrichment, Flour 3, 15
California—Elevators, Grain Warehouses 75
Calves—Population by States 118
Canada—Barley, Exports, Crop Years 26
Bleaching Regulations 50
Crop Report Dates 87
Crops 90-100
Duties on 56
Elevators, Licensed 75
Elevators, Terminal 75
Elevators, Vancouver 80
Feed Laws 117
Flaxseed, Exports, Crop Years 26
Flour, Exports, to Philippine Islands 24
Flour, Exports, Crop Years 26
Flour and Wheat, Exports, Crop Years 26
Flour Milling Activity 26
Flour Milling Capacity by Cities 22
Flour Production, Calendar Year 24
Flour Production by Months 26
Grain, Duties on 56
Grain, Exports, Crop Years 26
Grain Inspection, Charges 90
Grain Inspection, Western Canada 90
Grain Ports, Opening and Closing Dates 93
Import Duties 56
Lake Shipments of Grain 21
Millfeed Exports 117
Millfeed Output 71
Oatmeal Exports 26
Oatmeal Production 26
Oats, Exports, Crop Years 26
Oats, Rolled, Exports 26
Oats, Rolled, Production 26
Package Regulations 52
Rye, Exports, Crop Years 26
Self-Rising Flour Regulations 51
Terminals on Upper Lakes 75
Wages, Flour Mill 48
Wheat, Amount Ground 26
Wheat Exports, Crop Years 74
Wheat Inspections 24
Wheat, Visible, Supply 86
Capacity (Under Individual City)
Buffalo Mills 24
Canadian Mills by Cities 22
Chicago Mills 24
Elevator 75-77
U.S. Mills, by States 23
Carotene—Analysis Table 109
Carryover (See Also Stocks)
Canada 93
Feed Grains 76
Cat Food 103
Cattle—Population by States 118
Value in U.S. 119
Census—Baking Industry, U.S. 121, 124
Feedingstuffs Industry, U.S. 102-105
Flour Milling Industry, U.S. 18, 20
Prepared Feeds, U.S. 102-105
Rye flour Production, U.S. 18
Wheat Flour Production, U.S. 23
Census—Baking Industry, U.S. 121-124
Certificate Final Terms 127
Chambers of Commerce (See Grain Exchanges)
Chicago—Board of Trade——
Contract Grades 61
Futures Trading 61
Officers 80
Elevators, Private 77
Elevators, Public 77
Flour Mills 24
Flour Prices 21
Millfeed Prices 114
Oats Prices 95
Open Board of Trade—Contract Grades 62
Receipts and Shipments 86-87
Soybean Prices 107
Chickens—Population by States 119
Chile—Flour and Wheat, Duties on 60
China—Flour and Grain, Duties on 59
Import Regulations 53
Chlorine Dioxide—Flour Bleach 15
Chlorine—Flour Bleach 15
Choline—Analysis for Feedstuffs 108
Chop—Definition, Feedingstuffs 107
Cincinnati—Elevators 75
Receipts and Shipments 76
Civilian Flour Consumption 74
Clubs 133-135
Colombia—Bleaching Regulations 50
Flour and Wheat, Duties on 58
Self-Rising Flour Regulations 51
Consumption—Flour by Bakeries, U.S. 123
Flour, Commercial 74
Flour, Per Capita, U.S. 74

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Wheat, Canada 86
Wheat, U.S. 74
Containers (See Packages)
Regulations Prohibiting Re-Use for Flour and Cereal Packaging 3
Contract—Grades 61-70
"Open" Definition 62
Conversion Tables—Feedstuffs Analysis 108
Corn—Carryover 118
Contract Grades 61-70
Control Laws 60
Crops 90-100
Exports, U.S. 37
Farm Stocks 21
Futures Trading 61-70
Grades, U.S. 81
Imports, U.K. 48
Imports, U.S. 39
Meal, Production 18
Meal, U.S., Production 18
Movement 86-88
Prices, Index Numbers of 117
Standards 81
Stocks 21
Corn Products—Consumption, U.S. 81
Definition 81
Enrichment 81
Production, U.S. 18
Standards 81
Costa Rica—Bleaching Regulation 50
Flour and Grain, Duties on 56
Import Regulations 53
Package Regulations 52
Self-Rising Flour Regulations 51
Costs—Baking Industry, Materials 121
Feed Milling, Materials 104-105
Flour Milling, Materials 20, 31
Grinding or Milling of Grain, U.S. ..20, 31
Cottonseed (Oil Cake and Meal)—Exports, U.S. 39
Imports, U.S. 39
Cows—Milk, Population by States 118
Population by States 118
Value in U.S. 119
Cracker—Census Report 122, 124
Crackers (See Biscuits)
Crop—Acreage (See Wheat, Corn, Etc., Below)
Acreage Seeded for Spring Wheat ... 100
Acreage Seeded 1953 Winter Rye Crop 96
Acreage Seeded 1953 Winter Wheat Crop 99
Acreage, Yield and Production 90-100
Alberta 90-100
Algeria 90-100
Argentina 90-100
Australia 90-100
Austria 90-100
Barley in U.S. 90-100
Belgium 90-100
Brazil, Wheat 90-100
Buckwheat in U.S. 94
Bulgaria 90-100
Canada 90-100
Canada Western Provinces 93
Canadian Report Dates 87
Chile 90-100
Corn in U.S. 99
Czechoslovakia 90-100
Denmark 90-100
Distribution (See Consumption)
Durum Wheat in Northwest of U.S. 100
Egypt 90-100
Eire 90-100
England (See U.K.) 90-100
Estimate, Winter Wheat in U.S. ..90-100
Estimates, Preliminary Spring Wheat in U.S. 90-100
Finland 90-100
Flaxseed in U.S. 90-100
France 90-100
Germany 90-100
Grain Sorghums 92
Greece 90-100
Hungary 90-100
India 90-100
Italy 90-100
Japan 90-100
Luxemburg, Wheat 90-100
Manitoba 93
Mexico 90-100
Morocco 90-100
Netherlands 90-100
New Zealand 90-100
Norway 90-100
Oats in U.S. 90-100
Palestine 90-100
Portugal 90-100
Rumania 90-100
Russia 90-100
Rye in U.S. 94
Rye, Winter Acreage Seeded for 1953 94
Saskatchewan 93
South Africa 90-100
Soybeans Harvested 94
Spain 90-100
Sweden 90-100
Switzerland 90-100
Syria and Lebanon 90-100
Tunis 90-100
Turkey 90-100
United Kingdom 90-100
U.S. Report Dates 96
Uruguay 90-100
Wheat Acreage by States 90-100
Wheat (Combined) in U.S. 100
Wheat, Winter, in U.S. 100
Wheat, World Crop 90
Yugoslavia 90-100
Cuba—Bleaching Regulations 50
Flour and Grain, Duties on 58
Package Regulations 52
Self-Rising Flour Regulations 51
Curacao (N.W.I.)—Flour and Grain, Duties on 58
Czechoslovakia—Crops 90-100
Flour and Grain, Duties on 54
Dallas-Ft. Worth—Flour Mills 24
Dallas—Grain Exchange Officers 80
Danube (Lower Danube)—Flour and Wheat, Exports, Crop Years 26
Definitions—Barley, Feedingstuffs ..106, 107
Buckwheat Products, Feedingstuffs 106, 107
Chop, Feedingstuffs 106, 107
Corn Products 106, 107
Dockage 85
Feedingstuffs 106, 107
Farina 20
Flour (Durum, Enriched, Bromated, Self-Rising, Phosphated, Whole Wheat) 15
Milling in Bond 41
Milling in Transit 4
Oat Products, Feedingstuffs 107
Rye Products, Feedingstuffs 107
Screenings, Feedingstuffs 107
Semolina 20
Wheat Products, Feedingstuffs 107
Denmark—Bleaching Regulations 50
Crops 90-100
Flour and Grains, Duties on 54
Flour Buying Methods 47
Flour Controls 47
Mills 47
Detroit—Elevators 75
Disappearance (See Consumption and Distribution)
Distribution—Durum, U.S. 37
Method, U.K. 45
Wheat, U.S. 74
Dockage—Definition 85
Dog Food Production 103
Dominica—Flour and Grain, Duties on.. 57
Dominican Republic—Flour and Grain, Duties on 57
Duluth—Board of Trade—
Contract Grades 61
Futures Trading 61
Duluth-Superior—Elevators 75
Flour Mills 24
Lake Shipments 76, 86
Movement 76, 86
Durum—Flour, Definition 14
Products, U.S., Production 28
Wheat, U.S., Amount Ground 28
Wheat, U.S., Crops 90-100
Wheat, U.S., Distribution 74
Wheat, U.S., Exports 34
Duties—Canadian Import 56
U.S. Import 56
World Import 54-60
Eastern Canada—Elevators 75
Ecuador—Flour and Wheat, Duties on..59
Import Regulations 53
Package Regulations 52
Self-Rising Flour Regulations 51
Egypt—Crops 90-100
Flour and Grain, Duties on 59
Package Regulations 52
Eire—Crops 90-100
Flour and Grain, Duties on 55
Elevators—Canada 75
U.S. and Principal Centers 75
Country 30
El Salvador—Flour and Grain, Duties on 56
Employees—Baking Industry 121
Feed Milling Industry 102
Flour Milling Industry 17, 20, 31
Enid—Board of Trade Officers 80
Enriched Flour—Definition and Label..3, 14
Enrichment—Bread, Standards and Labels 3
Corn Products 81
Flour, Standards and Labels, U.S..... 3
Flour, State Laws 3
Premix Standard 3
Standards, Bread 3
Standards, Flour, U.S. 3, 14
Enzymes—Deficiency, Flour 14
Movies 129
Europe (Look Under Country About Which Information Is Desired)
Crops 90-100
Flour and Grain, Duties on 54, 55
Flour and Wheat, Imports, Crop Years 26
Evansville—Elevators 77
Exchanges (See Grain Exchange)
Exports—Barley, Canada, Crop Years .. 26
Barley, U.S. 39
Barley, U.S., Lend Lease 39
Barley, U.S., UNRRA 39
Bran, U.S. 40
Control, Denmark 47
Corn, U.S. 37
Cottonseed (Oil Cake and Meal), U.S. 39
Durum, U.S. 37, 39
Feedingstuffs 40
Flaxseed, Canada, Crop Years 26
Flour, Argentina 30
Flour, Canada, Crop Years 26
Flour, Canada, to Philippine Islands.. 24
Flour, U.K. 74
Flour, U.S., by Months 36
Flour, U.S., Calendar Years 35
Flour, U.S., Crop Years 36
Flour, U.S., Lend Lease 33
Flour, U.S., Trade Terms 48
Flour, by U.S., UNRRA 33
Flour and Wheat, by Argentina, Crop Years 30
Flour and Wheat, by Australia, Crop Years 30
Flour and Wheat, by Canada, Crop Years 30
Flour and Wheat, by French North Africa, Crop Years 30
Flour and Wheat, by India, Crop Years 30
Flour and Wheat, by Lower Danube, Crop Years 30
Flour and Wheat, by U.S., Crop Years 30
Grain, Canada, Crop Years 26
Grain, U.S. 38
Linseed (Oil Cake and Meal), U.S... 39
Macaroni, U.S. 37
Middlings, U.S. 40
Millfeed, Canada 117
Oatmeal, Canada 26
Oats, Canada, Crop Years 26
Oats, Rolled, Canada 26
Oats, U.S. 38
Rye, Canada, Crop Years 28
Rye, U.S. 39
Semolina, U.S. 39
Soybeans (Oil Cake and Meal), U.S... 39
Subsidy 38
Wheat, Argentina 30
Wheat, Canada, Crop Years 30
Wheat, U.S., Calendar Years 34
Wheat, U.S., Crop Years 36
Wheat, U.S., Lend Lease 34
Wheat, U.S., by Months 36
Wheat, U.S., UNRRA 34
Farina—Definition 20
Label 20
Farm—Animal Population by States... ..... 118, 119
Farm Animals in U.S. 74
Stocks On and Off 21
Feed (See Feedingstuffs)
Canada Laws 117
Production, Census by States 102-105
Production, U.S., Dog and Cat 103
Production, U.S., Mineral 103
Production, U.S., Prepared 103

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Feed Grains—Prices, Index Numbers of 117
Stocks 107
Feedingstuffs—Analysis Table 108
Census, U.S. 102, 103
Definitions 106
Exports 40
Imports 39
Label Requirements, by States ...110-117
Prices, Wholesale, Index Numbers of 117
Production, Costs 102
Production of Grain for 118
Production, Value 102, 103
Receipts 93
Registration, State Laws Affecting..
.....110-117
Rules Adopted by Feed Trade 101
Sales, State Laws Affecting 110
Shipments 93
Weights, State Laws Affecting....110-117
Fiber—Analysis for Feedstuffs 108
Finland—Crops 90-100
Flour and Grain, Duties on 54
Flaxseed—Contract Grades 61-70
Crops 90-100
Exports, Canada, Crop Years 26
Futures Trading 61-70
Imports, U.S. 39
Movement 86-88
Production, Canada 26
Production, U.S. 90-100
Flour—Admixture, U.K. 45
Agene Bleaching 14
Bags (See Packages)
Bleached, Label 2
Bleaching, U.S. 2, 14
Blended, Production 18
Bromated, Standards 14
Commercial, Consumption, U.S. 74
Consumption, U.S. 74
Consumption, U.S. Bakeries 123
Containers (See Packages)
Controls, Denmark 47
Controls, Netherlands 47
Controls, U.K. 45
Cost of Production 2
Definitions and Standards of Identity 14
Denmark Buying Methods 47
Enrichment, Standards and Labels,
U.S. 3, 14
Enrichment, State Laws 3
Export Trade Terms 48
Exports, Canada, Crop Years 26
Exports, Canada, to Philippine Islands 24
Exports, U.K. 74
Exports, U.S., Calendar Years 33
Exports, U.S., Crop Years 36
Exports, U.S., Lend Lease 35
Exports, U.S., by Months 36
Exports, U.S., UNRRA 35
Imports, British Isles, Crop Years ... 26
Imports, Europe, Crop Years 26
Imports, Norway 47
Imports, Russia, Crop Years 26
Imports, U.K. 48
Imports, U.S. 30, 39
Imports, World Duties 54-60
India Milling 46
Ingredients 3, 14
Label Requirements 2, 14
Milling Capacity, Canadian Cities 22
Milling Capacity, Hutchinson 24
Milling Capacity, Kansas City 24
Milling Capacity, Minneapolis 24
Milling Capacity, Omaha 24
Milling Capacity, Salina 24
Milling Capacity, Southwest 24
Milling Capacity, U.S., by States 23
Milling Capacity, Wichita 24
Milling in Bond 11
Milling Industry, U.S., Census 20, 31
Milling, U.K. 48
Mills, Atchison 24
Mills, British, Destroyed by War.... 48
Mills, Buffalo 24
Mills, Canadian, by Cities 22
Mills, Chicago 24
Mills, Duluth-Superior 24
Mills, Ft. Worth-Dallas 24
Mills, Hutchinson 24
Mills, Kansas City 24
Mills, Minneapolis 24
Mills, Omaha 24
Mills, Salina 24
Mills, Seattle 24
Mills, Sherman 24
Mills, Southwest 24
Mills, Tacoma 24
Mills, U.S., Largest 28
Mills, U.S., Number of 23
Mills, U.S., by States 23
Mills, Wichita 24
Moisture Content 14
National, U.K. 45
Packages, Laws by States 5-11
Packages, Weights 5-11
Prepared Mixes, Label Requirements 3
Prices, Buffalo 21
Prices, Canada 3
Prices, Chicago 21
Prices, Kansas City 21
Prices, Minneapolis 21
Prices, St. Louis 21
Prices, Seattle 21
Prices, Toronto 3
Prices, U.K. 46
Prices, U.S., Carload 21
Prices, U.S., Retail 3
Prices, Winnipeg 3
Production, Buffalo 24
Production, Canada, by Months 26
Production, Canada, Calendar Year .. 24
Production, Census Reports 26
Production, Central States 26
Production, Kansas 23, 26
Production, Kansas City 24, 26
Production, Minneapolis 24, 26
Production, Minnesota 24, 26
Production, Montana 26
Production, Nebraska 23, 26
Production, North Dakota 26
Production, North Pacific Coast 26
Production, Northwest 22
Production, Oklahoma 23
Production, Omaha 24
Production, Portland 28
Production, St. Louis 30
Production, Seattle 24
Production, South Dakota 22
Production, Southeast 28
Production, Southwest 23
Production, Tacoma 24
Production, Texas 23
Production, Toledo 30
Production, U.S. 23, 26
Production, U.S., Calendar Year 26
Production, U.S., Monthly Reports ... 29
Production, U.S., Value 17, 18
Production, U.S., by States, Calendar
Year 26
Production, U.S., by States, Crop Year 26
Receipts and Shipments 75
Regulations, by States 5-11
Rye, Chicago, Carload Prices..... 3
Rye, Minneapolis, Carload Prices..... 3
Rye, U.S., Production 24
Self-Rising, U.S., Production 18
Standards 3, 14
Subsidy Program 38
Uniform Flour Export Trade Terms.. 48
Food and Drug Administration—Bread
Standards 3
Flour Standards 15
Label Requirements 3, 15
Food, Drug and Cosmetic Act—Defini-
tions and Standards of Identity,
Wheat Flour and Related Products 15
Label Statement 3, 15
Forecasts of Crops (See Crop Estimates)
Formosa—Import Duties 59
Formula Feeds—Analysis Table 108
Ft. William—Elevators 75
Ft. Worth—Elevators 77
Grain & Cotton Exchange Officers.. 80
Movement 76
Ft. Worth-Dallas—Flour Milling Ca-
pacity 24
France—Bleaching Regulations 50
Crops 90-100
Flour and Grain, Duties on..... 54
Self-Rising Flour Regulations..... 51
Freight—Transit Rate 4
French Indo-China—Flour and Grain,
Duties on 48
French West Indies—Bleaching Regula-
tions 50
Flour and Grain, Duties on 58
Import Regulations 53
Package Regulations 52
Self-Rising Flour Regulations 51
Futures—Trading Regulations 61-70
Galveston Elevators 77
Germany—Bleaching Regulations 50
Crops 90-100
Flour and Grain, Duties on..... 54
Flour Imports 46
Flour Trades in 46
Gibraltar—Import Regulations 53
Package Regulations 52
Grades—Contract Grades at Chicago... 61
Contract Grades at Duluth 61
Contract Grades at Kansas City 62
Contract Grades at Los Angeles 64
Contract Grades at Memphis 64
Contract Grades at Milwaukee 66
Contract Grades at Minneapolis 66
Contract Grades at Portland 70
Contract Grades at San Francisco 70
Contract Grades at Seattle 70
Contract Grades at Winnipeg 70
Corn, U.S. 81
Wheat, U.S. 82
Grain—Amount Ground, U.S. 29
CCC Stocks 107
Consumption, U.S. 74
Contract Grades 61-70
Elevators 75-79
Exports, Canada, Crop Years 26
Exports, U.S. 34
Futures Trading 61-70
Imports, U.S. 39
Imports, World Duties 54-60
Inspection (See Inspection)
Storage 75-79
Grain and Feed Dealers National Assn.
—Rules Governing Transactions in
Feedstuffs 106
Grain Exchanges—Baltimore Chamber
of Commerce, Officers 80
Buffalo Corn Exchange, Officers.... 80
Chicago Board of Trade, Officers.... 80
Contract Grades 61-70
Futures Trading 61-70
Kansas City Board of Trade, Officers 80
Minneapolis Grain Exchange, Officers 80
Omaha Grain Exchange, Officers.... 80
St. Louis Merchants Exchange of,
Officers 80
Seattle Grain Exchange, Officers 80
Winnipeg Grain Exchange, Officers.. 80
Grain Sorghums—Contract Grades 64
Crop 107
Prices, Index Numbers of 117
Great Britain (Also See U.K. and British
Isles)
Greece—Bleaching Regulations 50
Crops 90-100
Flour and Grain, Duties on..... 54
Self-Rising Flour Regulations..... 51
Grenada—Flour and Grain, Duties on.. 57
Grinding in Bond 11
Grindings—Grain, U.S., for Feed...104-106
Wheat, Canada 26
Wheat, Northwest 21
Wheat, Southwest 20
Wheat, U.S., Durum 37
Guadeloupe—Flour and Grain, Duties on 58
Guatemala—Bleaching Regulations 50
Flour and Grain, Duties on..... 56
Package Regulations 52
Self-Rising Flour Regulations 51
Haiti—Flour and Grain, Duties on .. 58
Hard Wheat (See Also Wheat)
Heifers—Population, by States 118
Hogs—Population, by States 118
Honduras—Flour and Grain, Duties on 56
Hong Kong—Bleaching Regulations ... 42
Flour and Grain, Duties on 59
Import Regulations 53
Package Regulations 52
Horses—Population, by States 119
Houston—Elevators 75
Hungary—Crops 90-100
Flour and Grain, Duties on..... 55
Hutchinson—Board of Trade, Officers.. 80
Flour Milling Capacity 24
Identity (See Definitions)
Imports—Barley, U.S. 39
Controls, Denmark 47
Corn, U.S. 37
Cottonseed (Oil Cake and Meal), U.S. 39
Duties, Canada 56
Duties, U.S. 56
Duties, World 54-60
Feedingstuffs 39
Flour, Norway 47
Flour, U.S. 37
Flour and Wheat, British Isles, Crop
Years 30
Flour and Wheat, Europe, Crop Years 30
Flour and Wheat, Russia, Crop Years 30
Flour and Wheat, U.K. 30
Foreign Regulations 53
Grain, U.S. 36
Linseed (Oil Cake and Meal), U.S... 39
Millfeed, U.S. 40
Oats, U.S. 39
Rye, U.S. 39
Rye Flour, U.S. 39
Soybeans (Oil Cake and Meal), U.S.. 39
Wheat, U.S. 34
Index Numbers of Feed Grain Prices.. 117
Index Numbers of Wholesale Feedstuff
Prices 116
India—Crops 90-100
Flour and Grain, Duties on..... 59
Flour and Wheat, Exports, Crop Years 30
Flour Milling 47
Indianapolis—Elevators 78
Movement 73
Indonesia—Flour and Grain, Duties on.. 59
Inspection—Grain, Canada Charges 90
Grain, Western Canada 70
Wheat, Winnipeg 70
International Wheat Agreement — Sub-
sidy 30
Iraq—Package Regulations 52
Ireland (See Eire)
Iron—Enrichment, Flour-Bread 3, 15
Israel—Flour and Grain, Duties on ... 59
Italy—Bleaching Regulations 50
Crops 90-100
Flour and Grain, Duties on..... 55
Package Regulations 52
Self-Rising Flour Regulations 51
Jamaica—Flour and Grain, Duties on.. 57
Japan—Crops 90-100
Flour and Grain, Duties on 59
Kansas—Elevators, Mills 78
Flour Milling Activity 23
Flour Milling Capacity 24
Flour Mills, Number of 24
Flour Production 23
Wheat, Amount Ground 29
Kansas City—Board of Trade
Contract Grades, Grain 61
Contract Grades, Millfeed 61
Futures Trading 61
Officers 80
Elevators 78
Flour Milling Activity 23
Flour Mills 23
Flour Prices 21
Flour Production 23, 26, 28
Millfeed, Futures 62
Millfeed Prices 114
Movement 86
Wheat Prices 41
Kernels in Bushel of Wheat 71

Label—Bread 3, 120
Feedingstuffs, Laws by States 110-117
Flour, Bleached 2, 15
Flour, Enriched 3, 15
Flour (Enriched, Bromated, Self-Rising, Phosphated, Whole Wheat) .. 3, 15
Flour, Requirements 3, 15
Requirements, Flour 3, 15
Statement, Bread 3, 15
Statement, Flour 3, 15
Statement of Food, Drug and Cosmetic Act 3
State Requirements, Feed 110-117
Lake Receipts at Buffalo 86
Lake Shipments 30
Lake Shipments at Chicago 86
Lake Shipments at Duluth-Superior 71
Lambs—Population, by States 119
Laws—Label 2, 3, 14
State Flour Enrichment 3
State Laws Affecting Feedingstuffs 110-117
State Laws Affecting Flour 5-11
State Package Regulations .. 5-11, 110-117
Lebanon—Flour and Grain, Duties on .. 59
Lend Lease—Barley Exports 39
Corn Exports 37
Durum Wheat 39
Flour Exports 33, 35
Oats 38
Rye 39
Semolina 39
Wheat Exports 33
Lighterage—New York Free 105
Linseed—Mills, Minneapolis 59
Oil Cake and Meal, U.S. Exports 39
Oil Cake and Meal, U.S. Imports 39
London (See Also U.K.)
Los Angeles Grain Exchange—Contract Grades 62
Loss in Storage—Feedstuffs 109
Luxemburg—Crops 90-100
Flour and Grain, Duties on 55
Macaroni—Exports, U.S. 37
Madagascar—Flour and Grain, Duties on 59
Malaya—Import Regulations 53
Malta—Import Regulations 53
Package Regulations 52
Malted Barley Flour 14
Malted Wheat Flour 14
Manitoba—Crops 93
Elevators 75
Martinique—Flour and Grain, Duties on 58
Memphis—Merchants Exchange—
Contract Grades 64
Futures Trading 64
Receipts and Shipments 76
Soybean Oil Meal, Futures 64
Metric System Equivalents 29
Merchants Exchange of St. Louis 80
Mexico—Crops 90-100
Flour and Grain, Duties on 56
Middlings—Exports, U.S. 39
Production, U.S. 18
Mill Stocks 5
Millers Organizations 133
Millfeed—Analysis 108, 109
Contract Grades 61-70
Definition, Feedingstuffs 106
Exports, Canada 117
Futures, Bran 61-70
Futures, Chicago 61
Futures, Kansas City 62
Futures, Middlings 61-70
Futures, Shorts 61-70
Futures Trading 61-70
Imports, U.S. 40
Prices, Buffalo 114
Prices, Chicago 114
Prices, Kansas City 114
Prices, Minneapolis 114
Prices, St. Louis 114
Production, U.S., Monthly Reports .. 28
Milling (Also See Mills)
Bonded Summary 11
Feed, Census Reports on Industry .. 102, 103
Feed, Cost of Materials 102, 103
Feed, Number of Employees 102
Feed, Values of Products 102, 103
Feed, Wages of Employees 102, 103
Flour Activity, U.S. 28
Flour Capacity, U.K. 48
Flour Capacity, U.S. 23
Flour, Census Reports on Industry 17, 31
Flour, Cost of Materials 17, 31
Flour, Number of Employees 17, 31
Flour, U.K. 47
Flour, Values of Products 17, 31
Flour, Wages of Employees 17, 31
Grain Ground, U.S. 17, 31
Transit Definition 4
Mills—Feed, U.S., Cost of Materials 102, 103
Feed, U.S., Employees 102, 103
Feed, U.S., Employees' Wages 102, 103
Feed, U.S., Number of 102, 103
Feed, U.S., Production 102, 103
Feed, U.S., Production Value 102, 103
Flour, Atchison 24
Flour, British, Destroyed by War 47
Flour, Buffalo 24
Flour, Buffalo, Production 24, 28
Flour, Canadian, Activity 26
Flour, Canadian, by Cities 26
Flour, Central States, Production 28
Flour, Chicago 24
Flour, Duluth-Superior 24
Flour, Ft. Worth-Dallas 24
Flour, Hutchinson, Capacity 24
Flour, Kansas, Activity 23
Flour, Kansas, Production 23, 26
Flour, Kansas City 24
Flour, Kansas City, Production 23, 28
Flour, Minneapolis 24
Flour, Minneapolis, Production 24
Flour, Minnesota, Activity 26
Flour, Minnesota, Production 26
Flour, Montana, Activity 26
Flour, Montana, Production 26
Flour, Nebraska, Activity 26
Flour, Nebraska, Production 23, 26
Flour, North Dakota, Activity 22
Flour, North Dakota, Production 26
Flour, North Pacific Coast, Production 28
Flour, Northwest, Activity 22
Flour, Northwest, Production 28
Flour, Oklahoma, Activity 23
Flour, Oklahoma, Production 23, 26
Flour, Omaha, Activity 23
Flour, Omaha, Production 23
Flour, Portland, Production 28
Flour, St. Louis 30
Flour, St. Louis, Production 30
Flour, Salina 24
Flour, Salina, Production 30
Flour, Seattle, Capacity 24
Flour, Seattle, Production 28, 30
Flour, Sherman 24
Flour, South Dakota, Activity 22
Flour, South Dakota, Production 26
Flour, Southeast, Production 28
Flour, Southwest 24
Flour, Southwest, Activity 23
Flour, Southwest, Production 26, 28
Flour, Tacoma 24
Flour, Tacoma, Production 28, 30
Flour, Texas, Activity 23
Flour, Texas, Production 23, 26
Flour, Toledo, Production 30
Flour, U.S., Capacity 23
Flour, U.S., Cost of Materials .. 17, 20, 31
Flour, U.S., Employees 17, 31
Flour, U.S., Employees' Wages 17, 31
Flour, U.S., Largest 28
Flour, U.S., Number of 23
Flour, U.S., Production 17, 26, 28, 31
Flour, U.S., Production Value 2, 17
Flour, U.S., by States 26
Flour, Wichita 24
Linseed, Minneapolis 59
Milwaukee—Elevators 78
Grain Exchange—
Contract Grades 66
Futures Trading 66
Receipts and Shipments 76
Mineral Feeds—Analysis 108, 109
Production 103
Minneapolis—Elevators 78
Flour Milling, Activity 23
Flour Mills 24
Flour Prices 20
Flour Production 24, 28, 30
Grain Exchange—
Contract Grades 66
Futures Trading 66
Officers 80
Linseed Mills 59
Millfeed Prices 114
Receipts and Shipments 76
Wheat Prices 41
Minnesota—Flour Milling Activity 2
Flour Production 26
Wheat, Amount Ground 22
Miquelon and St. Pierre—Flour and Grain, Duties on 56
Mixed Feeds (See Feedingstuffs)
Moisture—Content, Flour 14
Received in Wheat States 41
Moisture-Free Basis of Flour 14
Montana—Flour Milling Activity 22
Flour Mills, Number of 22
Flour Production 26
Wheat, Amount Ground 22
Montserrat—Flour and Grain, Duties on 57
Morocco—Crops 90-100
Flour and Grain, Duties on 59
Movement—Baltimore, Flour and Wheat 76
Boston, Flour and Wheat 76
Buffalo, Canadian Grain Receipts ... 72
Buffalo, Grain Receipts by Lake 71
Canadian Grain Receipts at Buffalo .. 72
Chicago Flour, Feed and Grain ... 86, 87
Chicago Grain and Flour by Railroads 86
Cincinnati Wheat 73
Dockage in Wheat Receipts 86
Duluth-Superior Grain 81-86
Duluth-Superior Lake Shipments 81-86
Duluth-Superior Wheat, by Type 76
Flour at Principal Centers of U.S. 76
Ft. Worth Grain 86
Indianapolis Grain 86
Kansas City Feedingstuffs 86
Kansas City Grain 88
Kansas City Grain by Months 25
Memphis Wheat 76
Milwaukee Wheat and Flour 76
Minneapolis Feed 71
Minneapolis Flour, Feed and Grain .. 71
New Orleans Wheat and Flour 76
New York Flour and Wheat 76
Omaha Grain 88
Philadelphia Wheat and Flour 76
Portland Flour and Grain 76
St. Joseph Wheat and Flour 76
St. Louis Grain 86
Seattle Grain Receipts 79
Tacoma Grain Receipts 79
Toledo Wheat 76
Wheat at Principal Centers of U.S. .. 76
Movies—Feed Industry 123
Industrial 121
Milling Industry 122
Nashville—Elevators 79
National Flour—U.K. 45
Navigation—Opening and Closing of, in Canada 93
Nebraska—Elevators, Mills 78
Flour Milling Activity 22
Flour Mills, Number of 24
Flour Production 23, 26
Wheat, Amount Ground 23
Netherlands—Bleaching Regulations .. 50
Crops 90-100
Flour and Grain, Duties on 55
Flour Controls 47
Mills 47
Self-Rising Flour Regulations 51
Netherlands Guiana (Surinam)—Flour and Grain, Duties on 59
Netherlands Indies (Indonesia)—Package Regulations 52
Netherlands West Indies (Curacao)—Flour and Grain, Duties on 57
New Orleans—Elevators 78
Receipts and Shipments 86
New York—Elevators 79
Receipts and Shipments 76
New York Canals—Receipts and Shipments 76
New York Free Lighterage 105
New Zealand—Bleaching Regulations .. 50
Crops 90-100
Flour and Grain, Duties on 60
Self-Rising Flour Regulations 51
Niacin—Analysis for Feedstuffs 108
Enrichment, Flour-Bread 3, 14
Nicaragua—Flour and Grain, Duties on 56
Import Regulations 53
Nitrogen Trichloride—Bleaching Agent 14
Nitrosyl Chloride—Flour Bleach 14
Norfolk—Elevators 75
North African (French)—Flour and Wheat, Exports, Crop Years 30
North Dakota—Flour Milling Activity .. 23
Flour Mills, Number of 23
Flour Production 26
Wheat, Amount Ground 23
North Pacific Coast—Flour Production 28
Northwest—Crops (See Crops)
Flour Milling Activity 23
Flour Production 28
Wheat, Amount Ground 23
Norway—Crops 90-100
Flour and Grain, Duties on 55
Flour Imports 47
Mills 47
Number of Mills in U.S. 23
Oatmeal—Exports, Canada 26
Production, Canada 26
Oat Products—Definition, Feedingstuffs 107
Oats—Carryover 76
Contract Grades 61-70
Crops 90-100
Exports, Canada, Crop Years 26
Exports, Canada, Rolled 26
Exports, U.S. 38
Futures Trading 61-70
Imports, U.S. 39
Prices, Chicago 70
Prices, Index Numbers of 116
Production, Canada 88
Receipts 86-87
Shipments 86-87
Stocks 86
Oil Cake and Meal—Exports, U.S. 39
Imports, U.S. 39
Oil Meal—Soybean, Futures 66
Oklahoma—Elevators, Mills 79
Flour Milling Activity 23
Flour Mills, Number of 22
Flour Production 23, 26
Wheat, Amount Ground 29
Omaha—Elevators 79
Flour Milling Activity 24
Flour Milling Capacity 24
Flour Production 24
Grain Exchange, Officers 80
Movement 86
Ontario—Elevators 75
Open Contracts—Definition 61
Osnaburg—Definition 78
Output (See Production)
Oxides of Nitrogen—Flour Bleach 14
Packages—Bread, Regulations 120-123
Cereal Products, Regulations Prohibiting Re-Use 3
Feedingstuffs, Laws by States 110-117
Flour Laws, by States 5-11
Flour, Regulations Prohibiting Re-Use 3
Pakistan—Bleaching Regulations 50
Flour and Grain, Duties on 60
Palestine (Israel)—Crops 90-100
Panama—Flour and Grain, Duties on .. 56
Pantothenic Acid—Analysis for Feedstuffs 103
Paraguay—Flour and Grain, Duties on 59

Import Regulations 53
Parity Prices (See Prices)
Personnel—Baking Industry 121
Feed Milling Industry 102
Flour Milling Industry 17, 20
Peru—Crops 90-100
Flour and Grain, Duties on..... 59
Philadelphia—Elevators 75
Movement 76
Philippines, Republic of—Bleaching Regulations 50
Flour and Grain, Duties on..... 60
Flour, Exports from Canada 24
Import Regulations 53
Phosphated Flour—Definition and Label 14
Phosphorus—Analysis for Feedstuffs.. 108
Poland—Flour and Grain, Duties on... 55
Pt. Arthur, Canada—Elevators 75
Portland—Elevators 79
Flour Production 28, 30
Grain Exchange 70
Contract Grades 70
Movement 86
Ports—Grain, Opening and Closing Dates, Canada 93
Portugal—Bleaching Regulations 50
Crops 90-100
Flour and Grain, Duties on..... 55
Package Regulations 52
Self-Rising Flour Regulations 51
Potassium Bromate—Flour 14
Premixes—Enrichment Ingredients 3
Prepared Feeds—Production 103
Prepared Flour Mixes—Label Requirements 3
Pretzels (See Baking Industry)
Prices—Barley, Index Numbers of..... 117
Corn, Index Numbers of 117
Feed Grain, Index Numbers of..... 117
Feedingstuffs, Wholesale, Index Numbers of 116
Flour, Buffalo 21
Flour, Canada 3
Flour, Chicago 21
Flour, Chicago, Rye 3
Flour, Kansas City 21
Flour, Minneapolis 21
Flour, Minneapolis, Rye 3
Flour, St. Louis 21
Flour, Seattle 21
Flour, Toronto 3
Flour, U.S., Carload 21
Flour, U.S., Retail 3
Flour, Winnipeg 3
Grain Sorghums, Index Numbers of.. 117
Millfeed, Buffalo 114
Millfeed, Chicago 114
Millfeed, Kansas City 114
Millfeed, Minneapolis 114
Millfeed, St. Louis 114
Millfeed, U.S. Cities, Carload 114
Oats, Index Numbers of 117
Wheat, Kansas City 41
Wheat, Minneapolis 41
Wheat, St. Louis 41
Production—Baking Industry, Costs ... 121
Barley 91, 96
Bran, U.S. 18
Broilers, Commercial 105
Corn Products, U.S. 18
Durum Wheat Products, U.S..... 28
Feedingstuffs, U.S. 18
Feedingstuffs, U.S., Costs 102
Flaxseed, Canada 75
Flaxseed, U.S. 24
Flour, Buffalo 28, 30
Flour, Canada, Calendar Year 24
Flour, Canada, by Months 24
Flour, Central States 28
Flour, Kansas 23, 26
Flour, Kansas City 23, 28, 30
Flour, Minneapolis 28, 30
Flour, Minnesota 26
Flour, Montana 26
Flour, Nebraska 23, 26
Flour, North Dakota 23, 26
Flour, North Pacific Coast 28
Flour, Northwest 28
Flour, Oklahoma 23, 26
Flour, Omaha 23
Flour, Portland 28, 30
Flour, St. Louis 30
Flour, Seattle 28, 30
Flour, South Dakota 26
Flour, Southeast 28
Flour, Southwest 23, 26, 30
Flour, Tacoma 28, 30
Flour, Texas 23, 26
Flour, Toledo 30
Flour, U.S 17, 26, 28
Flour, U.S., Calendar Year 26
Flour, U.S., Census Reports 17, 26, 28
Flour, U.S., Monthly Reports 22
Flour, U.S., Principal Milling Centers 30
Flour, U.S., by States, Calendar Year 26
Flour, U.S., by States, Crop Year ... 26
Flour, U.S., Value 17
Middlings, U.S. 29
Millfeed, Canada 71
Millfeed, U.S., Monthly Reports..... 28
Millfeed in U.S. 17, 28
Oatmeal, Canada 26
Oats, Rolled, Canada 26
Rye flour, U.S. 24
Self-Rising Flour, U.S. 17
Semolina, U.S. 17
Protein—Analysis for Feedstuffs..... 108
Content, Flour 14
Quebec—Elevators 76
Quotations (See Prices)
Rates—Transit Freight 4
Receipts 86-88
Registration—Feedingstuffs 110-117
Regulations—Bleaching in Foreign Countries 50
Bread 120-123
Bread Enrichment 126
British Control, Wheat, Flour and Bread 45
Canadian Feed 119
Feedingstuffs 110-117
Feedingstuffs, by States 110-117
Flour, by States 5-11
Flour Containers, by States.....5-11
Flour Containers, Used, by States... 3
Futures Trading 61-70
Import, in Foreign Countries 53
Self-Rising Flour in Foreign Countries 51
Retail Prices (See Prices)
Riboflavin—Analysis for Feedstuffs.... 108
Enrichment, Flour-Bread 125
Rules (See Regulations)
Rumania—Crops 90-100
Flour and Grain, Duties on..... 55
Russia—Crops 90-100
Flour and Grain, Duties on..... 56
Flour and Wheat Exports..... 30
Rye—Contract Grades 61-70
Crops 90-100
Exports, Canada, Crop Years..... 26
Exports, U.S. 39
Flour, Chicago, Carload Prices..... 3
Flour Milled 18, 24
Flour, Minneapolis, Carload Prices... 3
Flour, U.S., Imports 39
Flour, U.S., Production 18, 23
Futures Trading 61-70
Imports, U.S. 39
Mill Grindings 28
Millfeed Production 18, 23
Movement 76
Rye Products—Definition, Feedingstuffs 107
St. Christopher and Nevis—Flour and Grain, Duties on 57
St. Joseph—Elevators 79
Movement 76
St. Louis—Elevators 79
Flour Prices 21
Flour Production 30
Merchants Exchange of—Officers 80
Millfeed Prices 114
Movement 76
St. Lucia—Flour and Grain, Duties on.. 57
St. Pierre and Miquelon — Flour and Grain, Duties on 56
St. Vincent—Flour and Grain, Duties on 58
Salaries (See Wages)
Sales—Feedingstuffs, Laws of States Affecting 110-117
Salina—Flour Milling Capacity 24
Flour Production 30
San Francisco—Elevators 75
Grain Exchange 70
Contract Grades 70
Saskatchewan—Crops 93
Elevators 75
Saudi Arabia—Package Regulations ... 52
Schools—Baking 128
Screenings—Definition, Feedingstuffs .. 107
Seattle—Elevators 79
Flour Mills 24
Flour Prices 21
Flour Production 28, 30
Grain Exchange—Contract Grades 70
Futures Trading 70
Officers 80
Movement 79
Secondhand Container Regulations 3
Self-Rising Flour—Definitions and Label 15
Foreign Regulations 51
Production, U.S. 17
Semolina—Definition 18
Exports, U.S. 37, 39
Production, U.S. 28
Sheep—Population, by States 119
Value in U.S. 119
Sherman—Flour Mills 24
Shipments 86
Singapore—Import Regulations 53
Size—Regulations for Bread 120-123
Sorghum Movement at Kansas City.... 66
Sorghums—Carryover 118
South Africa—Crops 90-100
South Dakota—Flour Milling Activity.. 22
Flour Mills, Number of 24
Flour Production 26
Wheat, Amount Ground 22
Southeast—Flour Production 28
Southwest—Flour Production 23, 26, 28
Wheat, Amount Ground 23
Soviet Union (See Russia)
Soybeans—Contract Grades 61-70
Crops 94
Exports, U.S. 39
Futures Trading 61-70
Imports, U.S. 39
Oil Cake and Meal, U.S., Exports... 39
Oil Cake and Meal, U.S., Imports... 39
Prices, Chicago 107
Spain—Bleaching Regulations 50
Crops 90-100
Flour and Grain, Duties on 55
Package Regulations 52
Self-Rising Flour Regulations 51
Standard Midds. (See Feedingstuffs)
Standards—Bread 124
Bread Enrichment 3
Corn 81
Corn Products 81
Enrichment, Premix 3
Enrichment, U.S. 3, 14
Flour 14
Flour, Bromated 14
Flour, Enrichment 3, 14
Wheat 82-85
Stocks—Canada Wheat Carryover, July 1 70
Distribution in U.S. 69
Farm Stocks of Wheat and Grain... 21
U.S. (See Stocks on Farms, Etc., Elsewhere Under "Stocks")
Storage (See Elevators) 75
Loss in Feedstuffs 108
Sugar—Consumption by Baking Industry, U.S. 124
Surinam (Netherlands Guiana) — Flour and Grain, Duties on 58
Sweden—Bleaching Regulations 50

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Crops 90-100
Flour and Grain, Duties on 55
Self-Rising Flour Regulations 51
Swine—Value in U.S. 119
Switzerland—Crops 90-100
Flour and Grain, Duties on 56
Self-Rising Flour Regulations 51
Syria—Flour and Grain, Duties on 60
Syria and Lebanon—Crops 90-100
Tacoma—Elevators 79
Flour Mills 24
Flour Production 28, 30
Receipts 79
Taiwan—Import Duties 60
Terminal—Elevators 75
Shipments 86
Texas—Flour Milling Activity 23
Flour Mills, Number of 24
Flour Production 23, 26
Wheat, Amount Ground 23
Thiamine—Enrichment, Flour-Bread ..3, 14
Tobago—Flour and Grain, Duties on 58
Toledo—Elevators 78
Flour Production 30
Movement 86
Toronto—Flour Prices 3
Trade (See Imports and Exports)
Flour Export Terms 48
World 30
Transit Milling Defined 4
Trinidad—Flour and Grain, Duties on 58
Tunisia—Crops 90-100
Flour and Grain, Duties on 59
Turkey—Crops 90-100
Flour and Grain, Duties on 56
Turkeys—Population, by States 119
Turks Island—Flour and Grain, Duties on 58
Union of Socialist Soviet Republics (See Russia)
Union of South Africa (See British South Africa)
Bleaching Regulations 50
Flour and Grain, Duties on 59
Import Regulations 53
Package Regulations 52
Self-Rising Flour Regulations 51
United Kingdom (See Also Individual Cities Listed Herein)
Admixture of Imported Flour 45
Associations 135
Crops 90-100
Flour Distribution 45
Flour Exports 74
Flour, Extraction Rate in 45
Flour, Import Controls 45
Flour Prices 45
Flour and Grain, Duties on 45
Flour and Wheat Imports 48
Flour Milling Capacity 48
Flour Mills 48
Flour Mills Destroyed by Enemy Action 48
National Flour 48
Regulations for Wheat Flour 48
Wheat Acreage 48
UNRRA—Barley Exports by U.S. 39
Corn Exports by U.S. 37
Durum Wheat Exports by U.S. 28, 37
Flour Exports by U.S. 33, 35, 36
Oats Exports by U.S. 38
Semolina (See Durum)
Wheat Exports by U.S. 34
United States—Animal Population, Farm 118, 119
Bakeries, Number of 121
Baking Industry Census 121, 124
Barley Exports 39
Bread, Average Prices 128
Condition of Crops (See Condition)
Corn, Exports 37
Corn, Grades 81
Corn, Imports 39
Corn Products Production 18
Cottonseed (Oil Cake and Meal) Exports 39
Cottonseed (Oil Cake and Meal) Imports 39
Crop Report Dates 96
Crops 90-100
Durum Wheat, Amount Ground 28
Durum Wheat Exports 28
Durum Wheat Products Production 28
Elevators 76-79
Feed Mills, Number of 102
Feedingstuffs, Census 102, 103
Feedingstuffs, Exports 40
Feedingstuffs, Production 102, 103
Flaxseed Production 24
Flour, Consumption 74
Flour and Grain, Duties on 56
Flour, Exports, by Months 36
Flour, Exports, Calendar Years 35
Flour, Exports, Crop Years 36
Flour, Exports, Lend Lease 35
Flour, Exports, UNRRA 33, 35
Flour, Imports 37
Flour and Wheat, Exports, Crop Years 36
Flour Milling Activity 28
Flour Milling Capacity 22
Flour Milling Industry, Census 17, 31
Flour Mills, Largest 26
Flour Mills, by States 24
Flour Packages 5-11
Flour Prices, Carload 21
Flour Prices, Retail 3
Flour Production 26, 28
Flour Production, Calendar Year 26, 28
Flour Production, Calendar Year, by States 26
Flour Production, Census Reports ..26, 29
Flour Production, Crop Year, by States 26
Flour Production, Principal Milling Centers 30
Grades, Corn 81
Grades, Wheat 80
Grain, Amount Ground 29
Grain and Flour, Duties on 56
Grain Exports 36, 37
Grain Imports 36, 37
Import Duties 56
Lend Lease (See Lend Lease)
Linseed (Oil Cake and Meal), Exports 39
Linseed (Oil Cake and Meal), Imports 39
Macaroni Exports 37
Millfeed Imports 40
Millfeed Prices, Carload 114
Oats Exports 38
Rye Exports 39
Rye Flour Production 24
Self-Rising Flour Production 18
Semolina (See Durum)
Soybeans Exports 39
Soybeans Imports 39
Soybeans (Oil Cake and Meal), Exports 39
Soybeans (Oil Cake and Meal), Imports 39
Wheat, Amount Ground 29
Wheat, Distribution 74
Wheat, Exports, Calendar Years 34
Wheat, Exports, Crop Years 36
Wheat, Exports, Lend Lease 34
Wheat, Exports, UNRRA 34
Wheat Imports 37
Wheat Production, Supplies and Consumption 74
Wheat Standards 82
Wheat Used for Feed and Seed 82
Wheat Yield, Per Acre 90-100
Uruguay—Crops 90-100
Flour and Grain, Duties on 59
Used Container Regulations 3
Value—Baking Products, U.S. 121-122
Corn Products Production 18
Feedingstuffs Production, U.S. ..102, 103
Flour Milling Production, U.S. 17, 18
Miscellaneous Mill Products 17
Vancouver—Elevators 80
Exports of Grain and Flour 80
Venezuela—Bleaching Regulations 50
Flour and Grain, Duties on 59
Package Regulations 52
Self-Rising Flour Regulations 51
Virgin Islands—Flour and Grain, Duties on 58
Vitamin A—Conversion Table 109
Four Footed Animals 109
Poultry 109
Vitamins D_2 and D_3—Conversion Table 109
Vitamins—Enrichment, Flour 3, 14
Wages—Baking Industry 121
Feed Milling Industry 102
Flour Milling, Canada 48
Flour Milling Industry 17, 20
Weights—State Laws Affecting Feeds 110-117
State Laws Affecting Flour 5-11
Western Canada—Elevators 75
Wheat—Acreage, U.S. 90-100
Amount Ground, Canada 26
Amount Ground, Northwest 29
Amount Ground, Southwest 23, 29
Amount Ground, U.S. 29
Analysis 108-109
Canadian Lake Shipments 74
Consumption, Northwest 22
Consumption, Southwest 23
Contract Grades 61-70
Durum, U.S., Amount Ground 28
Durum, U.S., Exports 28
Durum Products, U.S., Production 28
Exports, Canada, Crop Years 26
Exports, Foreign Nations, Crop Years 30
Exports, U.S., Calendar Years 34
Exports, U.S., Crop Years 36, 38
Exports, U.S., Lend Lease 34
Exports, U.S., by Months 36
Exports, U.S., UNRRA 34
Farm Stocks 21
Grinding in Bond 11
Import Duties 54-60
Imports, British Isles, Crop Years 26
Imports, Europe, Crop Years 30
Imports, Russia, Crop Years 30
Imports, U.K. 26, 30
Imports, U.S. 37
Inspection, Winnipeg 70
Movement 86-88
Receipts 86-88
Semolina (See Durum)
Shipments 86 88
Standards 82
Stocks 21
Subsidy Payments 30
Types, Received and Shipped at Duluth 77
Yield Per Acre 90-100
Wheat Millfeeds—Production 18
Wheat Products—Definition, Feedingstuffs 106
Wichita—Board of Trade Officers 80
Flour Milling Capacity 24
Flour Production 30
Winnipeg—Elevators 79
Flour Prices 5
Grain Exchange—
Contract Grades 70
Futures Trading 70
Officers 80
Wheat, Inspection 70
Wheat Prices 70
Winter Wheat (See Also Wheat, Crops, Etc.)
World—Crops 90-100
Trade 30
Wrapping—Bread Regulations 120-123
Yield (See Crops)
U.K., Wheat 47
Yugoslavia—Crops 90-100
Flour and Grain, Duties on 56
Self-Rising Flour Regulations 51

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Blodgett, Frank H., Inc..... 32
Bunge Corporation 60
Burrus Mills, Inc. 69
Cargill, Inc. 89
Chase Bag Co. 12
Chicago Board of Trade 98
Commander-Larabee Milling Co. 1
Continental Grain Co. 67
D. C. A., Inc. 25
Early & Daniel Co. 112
Eckhart, B. A., Milling Co..... 13
Einfuhrhandel Mannheim 55
Farmers Union Grain Terminal Assn... 62
First National Bank 29
Fisher Flouring Mills 40
Fulton Bag & Cotton Mills .....Cover 2
General Mills, Inc. 16
Gray, A. R., Ltd. 43
Grippeling & Verkley 44
Hallet & Carey Co. 81
Harris County Houston Ship Channel Navigation District 49
Hotspot Detector 82
Hunt Milling Corp., Ltd. 68
Inland Mills, Inc. 21
International Milling Co. 132
Interstate Grain Corp. 85
Jennison, W. J., Co. 38
Jones-Hettelsater Construction Co. 8, 9
Jordan, Omar 53
Justesen, Brodr. 53
Kimpton, W. S., & Sons 53
King, H. H., Flour Mills Co..... 45
Knappen Milling Co. 32
Lamson Bros. & Co. 141
Leval & Co., Inc. 81
Luchsinger, Meurs & Co. 51
Macdonald Engineering Co. 63
Madsen, Otto 55
Mardorf, Peach & Co., Ltd. 44
Marsh & McLennan, Inc. 10
Meelunie, N. V. 50
Mennel Milling Co., The 4
Miller Publishing Co. 27, 47, 65, 97, 142, 143, 144
Mitchell, Hutchins & Co.. 87
Monsanto Chemical Co. 7
Montana Flour Mills Co. 126
Nellis Feed Co. 117
Norenberg & Belsheim 55
Norris Grain Co. 11
North Dakota Mill & Elevator 28
Novadel Flour Service Division, Wallace & Tiernan Inc. .....Cover 3
Osborne McMillan Elevator Co. 71
Osieck & Co., v/h 51
Patchin Appraisals 4
Pillman & Phillips 43
Pillsbury Mills, Inc. 136
Rice, Daniel F., & Co. 64
Roanoke City Mills, Inc. 128
Ruoff, A., & Co. 50
Russell-Miller Milling Co. 125
Russell, D. T., & Baird, Ltd..... 52
St. Cloud Milling Co. 30
Sheridan Flouring Mills 36
Simonds-Shields-Theis Grain Co. ...Cover 4
Skandinavisk Mel-Import 58
Smith, Sidney, Ltd. 57
Smyth & Co., Ross T., Ltd..... 44
Springfield Milling Corp. 43
Standard Milling Co. 5
Stannard, Collins & Co., Ltd..... 57
Thomas, Vaughan, & Co., Ltd..... 42
Tri-State Milling Co. 129
Uhlmann Grain Co. 84
Van Dusen Harrington Co. 83
Victor Chemical Works 72, 73
Wallace & Tiernan Inc. 15
Ward Feed Co. 110
White, Bob, & Co. 105
Wilson, Wirt, & Co. 138
Witsenburg, M., Jr., N. V..... 51
Zeleny Thermometer Co. 78

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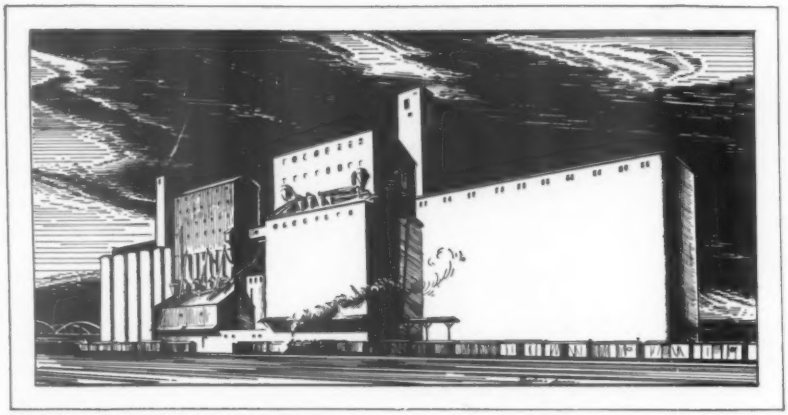

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